

# THE SPATIAL AND URBAN DIMENSIONS OF DEVELOPMENT IN THE PHILIPPINES

Ernesto M. Pernia  
Cayetano W. Paderanga, Jr.  
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**Philippine Institute for Development Studies**

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## FOREWORD

Issues relating to the processes of urbanization, industrialization and spatial development have gained prominence through the years. However, while studies on these areas have contributed to a stimulating discussion of policy questions, these have often been conducted on a piecemeal basis. Noticeably lacking in research efforts especially during the 60s and 70s is an integrative study, defining in a broader perspective, the interrelationships among urban growth, industrialization and the space economy.

This volume, authored by Ernesto M. Pernia, Cayetano W. Paderanga, Jr., Victorina P. Hermoso and their associates from the University of the Philippines School of Economics, is an integrative study of the interlinked problems of urbanization, industrialization and spatial development. The book attempts to respond to the long felt need for a thorough discussion and analysis of the interrelationships among these three aspects of modernization, especially as they have become priority areas of development policy in the 80s.

By embarking on this research undertaking, the authors have achieved a milestone in Philippine development research. In particular, their study helps to clear up a number of misconceptions about spatial and urban issues. Likewise, they have clarified certain frequently raised questions, such as: is the level of urbanization too high or too low; is the speed of urbanization too fast or too slow; why have rural and regional development policies failed to keep industries from locating, and population from migrating toward main city centers; how can a more balanced urbanization and regional development conducive to greater efficiency and equity be achieved? And so on.

This study not only builds on previous research endeavors but also opens wider vistas for discovering fresh insights needed in plan and policy formulation. It is an important contribution to our better understanding of the process of urbanization and spatial development.

The PIDS gratefully acknowledges the financial assistance received from the National Economic and Development Authority for the conduct of this study.

FILOLOGO PANTE, JR.  
President

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## PREFACE

This volume embodies the product of a collaborative research effort at the U.P. School of Economics (UPSE) involving faculty members and graduate students. Under the arrangement, these students were able to work on their dissertation and thesis research while contributing to this joint output. The time frame of the research project stretched from June 1980 to October 1981.

Aside from us, the other members of the research team were Victorina P. Hermoso, a Ph.D. candidate; Virginia Gonzales, Cardozo Luna, Gilda Reyes and Evangeline Soliman, all M.A. candidates. Rosario Gulinao-Quirubin acted as research assistant while Ana R. Aureo served as secretary-typist. At various points during the project period, a few other graduate students and members of the UPSE staff were also involved, including Ellen Rose Payongayong and Fely Galaites.

Dr. Richard F. Muth of Stanford University came for about two weeks in February 1981, under PIDS-UNDP sponsorship, to lend some advice on certain aspects of the project. Dr. Edwin S. Mills of Princeton University served as reader of the draft report and offered useful criticisms and suggestions. Likewise, Dean J. Encarnacion gave specific comments on certain parts of the study. In addition, the draft report profited from the presentation made at the PIDS/NEDA seminar in April 1982. Finally, it was inevitable but fortunate that we benefited either directly or indirectly from conversations with our colleagues, as well as from the conducive research milieu at the School of Economics.

The project also obtained the indispensable cooperation of a number of government agencies particularly regarding its data requirements. Prominent among these offices were the National Economic and Development Authority, the National Census and Statistics Office, the Central Bank, the Commission on Audit, the Ministry of the Budget, and the Ministry of Public Works and Highways.

Lastly, but certainly not least, the research project was made viable by the financial support of the Philippine Institute for Development Studies (PIDS) and the NEDA-UNFPA Population/Development Program, as well as by the encouragement of the PIDS president, Dr. Filologo Pante, Jr. and, subsequently, Dr. Romeo M. Bautista. The research undertaking may per-

haps be considered as an example of a case where academic interest and policy concern coincide and where such coincidence can be invigorated by the skillful entrepreneurship of an institution such as the PIDS.

Ernesto M. Pernia  
Cayetano W. Paderanga, Jr.

University of the Philippines  
SCHOOL OF ECONOMICS

## PART I

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# **THE SPATIAL AND URBAN DIMENSIONS OF DEVELOPMENT**

Ernesto M. Pernia  
and  
Cayetano W. Paderanga, Jr.

# CHAPTER 1

## INTRODUCTION

A survey of Philippine development literature would reveal that a number of studies have been devoted to the subject of urbanization and cities. A later genre of research has touched on regional development which started to become a fashionable topic in the late 60s. These two types of studies have, in separate ways, not only contributed fruitfully to academic discussion but have also stimulated thinking about relevant policy issues. During the 70s, research efforts on the urban and regional aspects of development continued to move along largely independent lines.<sup>1</sup>

In recent years, there has been an increasing appreciation of the close relationship among the processes of urbanization, industrialization and spatial development. Likewise, there has been a deepening concern about urban and spatial issues with respect to development in the 80s. It seems appropriate and timely to consider urbanization and spatial development as one research problem or as two interlinked aspects of national development.

A study of the spatial and urban dimensions of development is important for a number of reasons. First, because urbanization and spatial concentration of economic activity have implications on the distribution of the benefits of development and the satisfaction of human needs since people and economic resources are located in space. On account of such constraints as friction of space, market segmentation, information gaps and imperfect mobility, access of people to resources and to the benefits of development has been patently uneven.

Second, there are a good many misconceptions and ambiguities about spatial and urban issues needing clarification, as exemplified by the following frequently-asked questions: is the level of urbanization high or low; is the speed of urbanization too fast or too slow; is urbanization related to industrialization; is Metropolitan Manila too big and, if so, why does it continue to grow or attract people and resources; what was the basis for the 50-kilo-

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<sup>1</sup> A survey of Philippine urbanization and spatial development research has been done by Pernia and Paderanga (1980) and has in fact served as the take-off point of the present study.

meter-radius ban against the location of industries in Metro Manila; why have rural and regional development policies largely failed to keep population from migrating to the usual destinations, e.g., Manila or the central industrial region; are local community government-sponsored projects effective in raising household incomes and stemming out-migration?

Third, because the phenomenon of urbanization and spatial concentration is likely to become a more prominent issue in the 80s, answers or clues to the foregoing questions are called for by the scientific community, policy planners and the public in general. Policymakers, in particular, need a firm handle on the so-called "urbanization problem". For instance, at one level this problem may refer to urban primacy or the polarization phenomenon and how regional urban centers could serve to reverse such polarization. At another level, the problem may be in terms of urban poverty and how to cope with rapidly increasing demands for social services in cities.

Fourth, a good deal of research effort has been expended by various scholars on the broad topics of urbanization and regional development, as already mentioned above. It is worthwhile to continue the scholarly tradition in order to build on these previous studies, be able to come up with answers to new research questions, and thus keep up with the dynamism of social science research.

The foregoing points constitute the general rationale for a continuing research effort on the subject. The present study is meant to be a part of such an endeavor. The objectives are: a) to describe analytically the historical processes of urbanization and spatial concentration of population and economic activity, highlighting the role played by government policies; b) to determine quantitatively the factors that influence manufacturing concentration and population movements; c) to examine the extent to which urbanization affects agricultural productivity; and d) to draw possible lessons or implications for policy planning.

### Conceptual Framework

We use the terms "urbanization" and "spatial development" together or interchangeably since we regard them as two ways of looking at or expressing the same phenomenon.<sup>2</sup> Urbanization usually refers to the rise in the proportion of the population that is urban, or the growth of urban population relative to rural population, or the extent to which population becomes concentrated in cities or urban areas. A concomitant phenomenon is

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<sup>2</sup>Actually, the term "spatial development" is comprehensive enough but "urbanization" is the more popularly used expression.



industrialization, which denotes the shift of economic activity away from agriculture as well as the location of new economic activities or industries in places of concentration to take advantage of urbanization and agglomeration economies. Urbanization therefore connotes industrialization, and vice versa.

In the course of urbanization and industrialization, changes in the organization of the space economy result in a continuing alteration of the country's economic landscape. This process we call spatial development. Some points of concentration or cities prosper faster than others; in the same vein, some regions grow more rapidly than others. Over time, spatial development becomes uneven and tends to be concentrated in one or a few places, resulting in polarization which can perpetuate itself indefinitely (Myrdal 1957, Hirschman 1958).<sup>3</sup> Polarization can be socially undesirable because it can work against the efficiency of the socioeconomic system and a broad-based popular participation in development, as well as militate against national integration.

The foregoing discussion suggests that urbanization and spatial development are intrinsic and essential aspects of national development. They reflect the industrial and occupational restructuring of the economy and society. The forces that have shaped urbanization and spatial development are multifarious, but we can attempt to handle analytically only some of the major ones.

A major force considered to have brought about urban concentration or primacy is historical inertia, particularly colonial heritage. In colonial times the development of the present metropolis got underway apparently by virtue of its natural strategic advantages. Through time, this city served as an *entrepot* between the colony and the mother country (see, e.g., Cressey 1960). It drew resources from the rest of the colonial economy for the mother country but did not give anything in return to the peripheral economy. This dependency arrangement between colony and mother country seems to have had favorable consequences for the metropolis but debilitating effects on virtually the rest of the economy. Some development theorists contend that dependency arrangements and their effects persist in LDCs to the present day (Prebisch 1969, Frank 1972). These effects and other international forces impinge not only on overall national development but also on its spatial pattern.

After independence, the core-periphery dichotomy became more pronounced as social, political and demographic forces in conjunction with agglomeration economies increasingly favored the primate city and its

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<sup>3</sup> Although some recent literature (e.g., Richardson 1977, 1980; Alonso 1980) suggest that market forces would sometime automatically spur a polarization reversal.

environs. In addition, there are strong indications to suggest that the natural and economic advantages of the primate city have been further heightened by macroeconomic (trade and growth) policies that exert potent spatial biases in its favor and against the outer regions (Alonso 1970, Sicat 1970, Renaud 1979). It is largely on account of these implicit spatial biases, besides city-specific policies and programs, that later regional and rural policies explicitly intended to disperse population and development have been largely ineffective.<sup>4</sup>

Figure 1.1 depicts schematically the above hypothesized relationships. On the left-hand side is a big box containing smaller boxes labeled historical, economic, social and demographic forces which are largely natural or endogenous. These forces shape (and are themselves affected by) spatial development via household migration decisions, which in turn affect the urbanization process (lower loop). At the same time, the same forces influence (and are themselves influenced by) industrial location decisions of firms and the industrialization process itself, which then bear on the configuration of the space economy (upper loop).<sup>5</sup> It bears pointing out that implicit in the processes of urbanization and industrialization is agricultural development which is the other side of economic transformation; often, this point is missed in urbanization studies.

Around the middle of Figure 1.1 are the various government policies, viz. macroeconomic, regional, rural and urban, acting as exogenous forces. Macro and sectoral policies particularly those relating to trade and industry (and agriculture) were initiated in the 50s in the form of the exchange rate system, tariff and domestic tax/subsidy programs, and other fiscal and monetary measures. Although they were adopted purportedly to achieve the usual economic goals, it has become apparent that they have strongly influenced the spatial pattern of industrialization, agricultural development and urbanization.<sup>6</sup> Additionally, urban policies in the form of infrastructure investments and the provision of social services have also greatly benefited the city at the expense of the provinces (rural areas). Toward the late 60s, it apparently dawned on government planners and policymakers that something had to be done for the regions and rural areas in order to redress the imbalance and prevent the city from becoming "too big". Our hypothesis is that these regional and rural policies (e.g., industrial estates, industrial

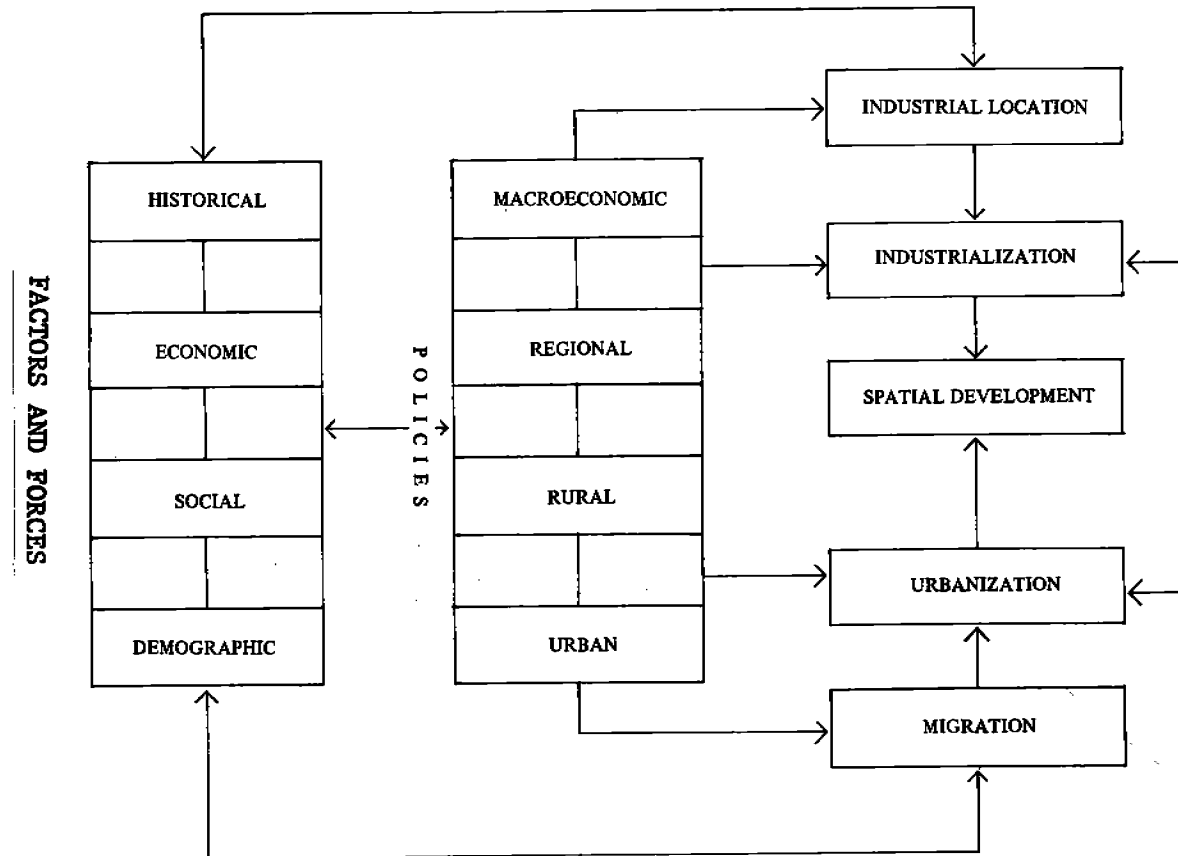
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<sup>4</sup>At least up to 1975 since lack of more recent data precludes a more complete analysis of policy effectiveness. Richardson (1980), for example, suggests that policy impact can be felt only after a lag of 15-20 years.

<sup>5</sup>Cf. also Paderanga's Special Paper on firm location in LDCs.

<sup>6</sup>These unintended policy impacts are also referred to as government-induced externalities (see Tolley, Graves and Gardner 1979).

**Figure 1.1 A Simple Conceptual Framework Depicting the Key Relationships with Respect to Urbanization, Industrialization and Spatial Development**



dispersal, and integrated area development) have been largely ineffective owing to the powerful biases for concentration of the macroeconomic and urban policies.

In sum, our central thesis is that the spatial development of the economy is shaped by the pace and pattern of urbanization, industrialization and agricultural development. These in turn are determined by natural economic and social forces as well as by the exogenous impacts of implicit spatial policies, even more so than the explicit ones. If so, a careful review of economic policies in terms of their direct and indirect spatial effects, in addition to the analysis of natural forces, is called for in the evolution of a sound urban and spatial development strategy.

### Organization of the Study

To put the Philippines in perspective, the next chapter provides a cross-country analysis of Asian urbanization and development. By looking at trends in the various Asian countries, one can get a better idea of the relative performance of the Philippines. The chapter also offers a broad view of the determinants of urbanization and primacy.

Chapter 3 gives an analytical description of the country's spatial development and urbanization from 1900 through 1975, breaking this long historical stretch into the Colonial Period (1900-39), the Import Substitution Period (1948-67), and the Regional Awareness Period (1967-70s). The chapter traces the shift and evolution of the nation's center of population and economic activity as influenced by socioeconomic forces and changing policy thrusts. This is followed by an analysis of the growth and structure of the urban system, resulting in a classification of cities that depict the current urban hierarchy in the context of regional development.

Chapter 4 discusses the spatial pattern of manufacturing activity within the framework of the three historical periods that reflect changing policy themes. It then presents the analytical results concerning the determinants of manufacturing concentration in the national capital region (NCR). A noteworthy feature of the analysis is the inclusion of policy-related variables along with the usual market factors. The second part of the chapter presents the patterns of interregional migration prior to 1960, between 1960 and 1970, and during 1970-75. This is followed by a discussion of the regression results on the factors that explain spatial population movements.

Finally, Chapter 5 pulls together the salient findings of the study. On the basis of these findings, some implications for policy and planning are put forward.

**Part II of the volume is an extensive study of the development of the Philippine space economy which provides part of the analytical underpinning for Part I. The rest of the background papers make up Part III of this volume.**

## CHAPTER 2

# ASIAN URBANIZATION AND DEVELOPMENT: A CROSS-NATIONAL PERSPECTIVE\*

This chapter offers a comparative perspective on Asian urbanization in relation to development, thus putting the Philippines in context. An analysis of certain indicators of urbanization and spatial concentration across countries may provide a broad clue to the particular aspects of the "urbanization problem" we should be concerned about. The focus of the chapter is on South, Southeast and East Asia, and the constituent countries exclude city-states (Hongkong and Singapore) and countries in turmoil (Cambodia and Vietnam) or with inadequate data (Nepal). In addition, two centrally planned Asian countries, namely, the People's Republic of China (PROC) and the Peoples Republic of Korea (North Korea) are included to increase the range of experiences.<sup>1</sup>

The trends for the different Asian regions are first presented in the context of the world's more developed and less developed regions. Comparative data on the constituent countries in each of the regions are next shown. Then an urbanization-development model is proposed and subsequently tested empirically. The concluding section summarizes the findings and implications.

### Asian Regions in Context

According to data from the United Nations (1980), the world in 1980 was about 41 percent urban; more developed regions were 70 percent urban and less developed regions, 30 percent urban. In absolute terms, these

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\*A version of this chapter appeared as an article in the *Philippine Review of Economics and Business*, Vol. XIX, 1982.

<sup>1</sup>Professor Oshima has written important treatises (1978, 1980, 1981) on the economic performance of, and prospects for, Asian countries. The present paper could perhaps serve as a complement to these treatises.

translate to 1,806 million urban population in the world as a whole, 834 million in more developed regions and 972 million in less developed regions. Against this background, we can situate the Asian regions in 1980 with the following statistics (from Tables 2.1 and 2.2):

---

	Percent Urban	Urban Population (in millions)
South Asia	22.0	201.1
Southeast Asia	22.7	61.4
Centrally Planned Asia	26.1	241.4
East Asia	72.5	112.9

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The data readily indicate extremes in urbanization levels in these regions. At one end is East Asia which corresponds closely to the average for the more developed world, and at the other end are South, Southeast and Centrally Planned Asia which fall below the mean for the less developed world and far below the average for the world as a whole.<sup>2</sup> The majority of Asia is thus still relatively unurbanized, reflecting the low level of development in these regions. This is particularly true of South Asia and Southeast Asia which are less than a quarter urban.

The relatively unurbanized status of Asia is the result of its slow pace of urbanization even in recent decades. This is contrary to the common impression that Asia has a problem of rapid urbanization. If anything, the problem seems to be more that Asian regions have been urbanizing rather sluggishly as evinced by the following comparative data (from Table 2.1) on rates of urbanization<sup>3</sup> (in percent) over three decades:

South Asia's rate (or speed) of urbanization has been the slowest and that of Southeast Asia has been practically the same especially in the 70s. These rates resemble the world average but are still lower than the mean for less developed regions.<sup>4</sup> Centrally Planned Asia's urbanization has been faster than South and Southeast Asia (unusually fast during 1950-60) and close to

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<sup>2</sup>The less developed world average is actually pulled up by Latin America whose urbanization level is closer to the more developed world than to the less developed world.

<sup>3</sup>Rate of urbanization is here defined as the percentage change in urban-rural ratio rather than the change in proportion urban. The former measure is superior because it does not have an upper limit of 1.

<sup>4</sup>There is also evidence to show that the rate of urbanization in LDCs is not rapid compared to the historical experience of Western countries (see Davis 1975, Pernia 1976, Preston 1979).



the less developed world average. The remarkable performance is that of East Asia whose speed of urbanization has been over 50 percent faster still than the average for the more developed world.

	<u>1950-60</u>	<u>1960-70</u>	<u>1970-80</u>
South Asia	11.3	14.5	19.4
Southeast Asia	20.3	16.0	19.0
Centrally Planned Asia	82.8	21.4	24.3
East Asia	53.3	45.8	46.8
<u>World</u>	<u>25.7</u>	<u>17.0</u>	<u>17.3</u>
More developed Regions	28.5	28.7	28.3
Less developed Regions	39.3	24.3	26.4

The pattern of urban population growth is quite the reverse. Southeast Asia manifests the highest rate of urban growth, approximating the average for the less developed regions, followed closely by South Asia. What is more striking is the pattern of rural population growth. The growth rates for South and Southeast Asia are very high relative to the average for the less developed regions as well as for the world as a whole. But the real contrast is with East Asia and the more developed regions whose rural growth rates have been negative throughout the three decades. The comparative rates of urban and rural population growth (from Table 2.2) are (in percent):

It is clear that in purely demographic terms the high rate of rural population growth is slowing down the pace of urbanization in Asia (except East Asia) and in the less developed world (despite high urban growth rates). If we compute for urban-rural growth difference (URGD), we would see the same interregional pattern as that for rates of urbanization (Table 2.2).<sup>5</sup>

### *South Asia*

This region, as already mentioned, is predominantly rural. It was 16 percent urban in 1950 and, even in 1980, only 22 percent urban. The countries in this region are among the lowest in terms of levels of income and their growth rates. Recent data on levels of urbanization, industrialization

<sup>5</sup>URGD is also used to measure speed of urbanization.

	1950-60		1960-70		1970-80	
	Urban	Rural	Urban	Rural	Urban	Rural
South Asia	33.5	20.0	42.8	24.6	47.6	23.7
Southeast Asia	47.3	22.2	48.7	27.9	52.3	28.3
Centrally Planned Asia	95.5	7.1	37.9	13.5	39.0	11.8
East Asia	41.5	-7.7	32.9	-8.8	29.5	-11.8
<u>World</u>	<u>39.8</u>	<u>11.1</u>	<u>33.9</u>	<u>14.3</u>	<u>33.4</u>	<u>13.8</u>
More developed Regions	27.6	-0.8	22.7	-4.6	18.7	-7.5
Less developed Regions	59.6	14.6	48.3	19.1	49.3	18.2

and GNP per capita for individual countries (from Tables 2.1 and 2.5) are as follows:<sup>6</sup>

	Urbanization	Industrialization	GNP per capita	
	(1980) Percent	(1978) Percent	(1978) US\$	(1960-78 annual change) Percent
Bangladesh	11.2	8	90	-0.4
Burma	27.2	10	150	1.0
India	22.3	17	180	1.4
Sri Lanka	26.6	23	190	2.0
Pakistan	28.2	16	230	2.8

<sup>6</sup>Industrialization level is here indicated by manufacturing share of GDP since this is the most dynamic component of the industrial sector. Data on GNP per capita are taken from the World Bank (1980).

The degree of concentration (proportion of urban population in largest city) in these countries in 1980 ranged from a low of 6 percent for India to a high of 30 percent for Bangladesh (Table 2.3). Urban concentration has remained more or less stable in India and in Pakistan (at 21 percent) but has markedly risen in Bangladesh from 20 percent in 1960. By contrast, Sri Lanka has shown remarkable deconcentration, from 28 percent in 1960 to 16 percent in 1980 despite the presence of only one city of over 500,000 inhabitants.

### *Southeast Asia*

The region as a whole has exhibited practically the same urbanization trend as South Asia although all countries are now classified by the World Bank as middle-income countries. Indonesia used to belong to the low-income group of countries until recently. Comparative data on urbanization, industrialization and GNP per capita for individual countries (from Tables 2.1 and 2.5) are shown below:

	Urbanization	Industrial- ization	GNP per capita	
	(1980) Percent	(1978) Percent	(1978) US\$	(1960-78 annual change) Percent
Indonesia	20.2	9	360	4.1
Thailand	14.4	18	490	4.6
Philippines	36.2	25	510	2.6
Malaysia	29.4	17	1,090	3.9

The income levels as well as their growth rates are significantly higher in Southeast than in South Asian countries. Thus, if the link between urbanization and economic growth continues to hold, Southeast Asian countries would probably accelerate in urbanization in the coming years, at least relative to South Asian countries.

Urban concentration (proportion of urban population in largest city) is very pronounced in the region, ranging from 23 percent in Indonesia to 69 percent in Thailand (Table 2.3). This indicator has been steadily rising in all four countries, as can be seen below:

	<u>1960</u>	<u>1970</u>	<u>1980</u>
Indonesia	20	22	23
Thailand	65	68	69
Philippines	27	29	30
Malaysia	19	23	27

It may be hypothesized that the exceptionally marked urban concentration or primacy in Southeast Asian countries is not unrelated to the import-substitution industrialization strategy pursued by these countries in the 50s and 60s.<sup>7</sup> This point will be discussed further and partial support for the hypothesis will be shown in subsequent sections.

### *Centrally Planned Asia*

This region includes two countries: the People's Republic of China (PROC) whose level of urbanization appears similar to some countries in South and Southeast Asia, and North Korea which resembles more the countries in East Asia than elsewhere. By World Bank income standards, PROC would be considered a low-income country and North Korea, a middle-income country, as denoted by the following data (from Table 2.1):

	Urbanization	GNP per capita	
	(1980) <u>Percent</u>	(1978) <u>US\$</u>	(1960-78 annual change) <u>Percent</u>
PROC	25.4	230	3.7
North Korea	59.7	730	4.5

<sup>7</sup>For a discussion of import-substitution policies widely adopted among Southeast Asian countries, see Myint (1972). While there has been a shift away from these policies, their spatial impacts probably continue to linger up to the present. An additional reason for the extreme urban concentration in Thailand may be a geographical one: the lack of good harbors in coastal areas to service big cities other than Bangkok.

Another point that may be noted is that the economic growth performance of both countries compares well with those of the high performers in South-east Asia.

The remarkable characteristic that seems to set these two countries apart from the other Asian countries is the relative absence of urban concentration. PROC exhibited only 6 percent urban concentration from 1960 to 1980 while North Korea had 15 percent concentration in 1960 which declined to 12 percent in 1980. It would seem that such relative lack of concentration is due to central controls on population movements.

### *East Asia*

The countries in this region are among the great economic performers of the post-war era: Japan in the 50s and 60s, Taiwan in the 60s and 70s and South Korea in the 70s (see, e.g., Oshima 1980). The average annual growth rate of GNP per capita in these countries from 1960 to 1978 was in the vicinity of 7 percent. (See also Table 2.4)

It is not surprising, therefore, that they have also experienced very rapid urbanization rates of over twice those manifested by the other Asian countries. By 1980, more than half of the population in South Korea was urbanized, and over three-fourths of both Taiwan and Japan's populations were urbanized. The growth rates of rural population in these countries have been negative for some time already. Data on 1980 degree of concentration show that 41 percent of South Korea's urban population are in Seoul, while for Japan, 22 percent are in Tokyo. The relatively low concentration in Japan may be attributed to its policy of regionalization of industrial development and more developed system of transportation and communication. The high concentration in South Korea may be partly explained by its heavy industrialization-cum-protection policy — in a way similar to the phenomenon in Southeast Asian countries.

### **Urbanization and Development**

The level of urbanization at a point in time, its pace over time, and the degree of concentration are indicative of the current and future scale of the urbanization problem. These are among the major indicators of concern relative to the urbanization issue. From the previous discussion of experiences across Asian regions and countries within each region, it appears that urbanization is closely related to economic development. What needs to be done now is to determine the principal correlates of urbanization. The Asian countries included in this study portray varied experiences and cir-

cumstances such that a cross-sectional statistical analysis should throw some light on the urbanization-development nexus. Specifically, what this cross-sectional analysis should do is to identify the factors that account for the variation in urbanization levels and rates, as well as in the degrees of concentration across Asian countries.

On the basis of standard development theory (e.g., Lewis 1954, Ranis and Fei, 1961), it is commonly supposed that overall development of the economy as well as developments in both the agricultural and industrial sectors determine urbanization in a fundamental way. Agricultural development tends to release farm labor and population over time which are then attracted to the urban-industrial sector. Thus, it has been assumed that the speed of rural-urban transformation is directly conditioned by agricultural and industrial developments. This seems to be the traditional view. Recent data on LDCs, however, suggest that rapid population growth tends to retard the urbanization process. The relationship may be hypothesized to operate in two ways. In the first place, where overall population growth is high, it is usually pronouncedly higher in the rural sector than in the urban sector, and this has the direct demographic effect of dampening the rise in the proportion urban. In the second place, population growth tends to hamper economic development and thus, indirectly, the urbanization process itself. It therefore seems warranted to expand the standard urbanization-development model by adding the population growth variable.

Concerning degree of urban concentration, our hypothesis is that it is also influenced by industrial development (or manufacturing activity) and population growth. In addition, degree of openness of the economy would play a crucial role inasmuch as importation of goods and services requires licenses and foreign exchange which are more easily obtainable in the capital city. Likewise, most other support services for manufacturing are found in the metropolis. There is then clearly a strong incentive for industries and business concerns to locate in the capital metropolis which, in most cases, is also the capital port of the country. This is all the more so in developing countries where transportation and communications are deficient (Alonso 1968). The spatial coincidence of the capital metropolis and the capital port is thus advantageous for manufacturing activity with its import requirements. As is known, import-intensive industrialization characterized many Asian economies during most of the post-war era.

### Data, Notations, and Results

The data employed in our regression exercise pertain to the South, Southeast, Centrally Planned and East Asian countries considered in the

previous discussion. The data are reported in the most recent publications of the United Nations (1980) and the World Bank (1980). (See Tables 2.1 through 2.6.) To increase the number of cases, we pooled the cross-section observations for 1960, 1970, and 1980 (or 1978). The variable notations and their specifications are as follows:

- $URB_t$  = level of urbanization at time  $t$ , specified as urban-rural ratio (or  $\frac{\text{proportion urban}}{1 - \text{proportion urban}}$ ) rather than simply proportion urban which has an upper limit of 1.
- $RURB_{t-1, t}$  = rate (or speed) of urbanization during some interval, specified as percentage change in  $URB$ .
- $CONC_t$  = degree of concentration at time  $t$ , specified as  $\frac{L}{1 - L}$ , where  $L$  denotes the proportion of urban population in the largest city.
- $IND_t$  = industry share of GDP at time  $t$ , which represents economic level.
- $GRAG_{t-1, t}$  = average annual growth rate of agricultural production.
- $GRMAN_{t-1, t}$  = average annual growth rate of manufacturing production.
- $GRPOP_{t-1, t}$  = average annual growth rate of production.
- $OPEN_t$  = degree of openness of the economy, specified as the import share of GDP.

Our regression results correspond to three dimensions of an urbanization-development model explaining: (1) level of urbanization, (2) rate of urbanization, and (3) degree of concentration.<sup>8</sup>

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<sup>8</sup> $t$ -values are enclosed in parentheses underneath regression coefficients.



$$(1) \text{ URB} = -1.249 + 1.669 \text{ IND} - 0.732 \text{ GRAG} + 0.234 \text{ GRMAN}$$

(4.683)            (2.211)            (0.917)

$$R^2 = 0.66$$

$$(1') \text{ URB} = 0.559 + 1.292 \text{ IND} - 0.533 \text{ GRAG} + 0.276 \text{ GRMAN} - 1.129 \text{ GRPOP}$$

(3.494)            (1.685)            (1.178)            (2.146)

$$R^2 = 0.73$$

Equation (1) shows that level of urbanization is significantly conditioned positively by economic level (IND) and negatively by agricultural growth (GRAG).<sup>9</sup> A 1.0 percent increase in economic level brings about a 1.7 percent change in urbanization level; on the other hand, a similar change in agricultural growth pulls down urbanization level by 0.7 percent. Manufacturing growth (GRMAN) has a positive effect on urbanization but is not significant.

Equation (1') is an enhanced model with population growth (GRPOP) added as an explanatory variable. GRPOP has a significant negative influence on URB and the overall explanatory power of the model increases from 66 percent to 73 percent. This result lends strong support to our hypothesis.

The results for rate of urbanization (specified in semi-log form) are as follows:

$$(2) \text{ RURB} = 3.910 - 0.006 \text{ IND} - 0.415 \text{ GRAG} + 0.110 \text{ GRMAN}$$

(0.483)            (3.716)            (3.288)

$$R^2 = 0.48$$

$$(2') \text{ RURB} = 5.270 - 0.021 \text{ IND} - 0.313 \text{ GRAG} + 0.097 \text{ GRMAN}$$

(1.632)            (2.898)            (3.220)

$$- 0.556 \text{ GRPOP}$$

(2.351)

$$R^2 = 0.61$$

Equation (2) parallels equation (1) but the dependent variable is expressed as speed of urbanization over time. Economic level (appropriately lagged as  $\text{IND}_{t-1}$ ) has the reverse sign as expected but is now insignificant. The negative

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<sup>9</sup>Both equations (1) and (1') are in double-log formulations.

sign simply means that urbanization tends to slow down at higher economic levels. Agricultural growth (GRAG) continues to be negative and significant, and manufacturing growth now exhibits a significant positive effect.

Equation (2') is likewise analogous to equation (1') with the added population growth variable (GRPOP) once again figuring importantly with its negative sign, and raising the explanatory value of the model by 13 percent.<sup>10</sup> The negative effect of agricultural growth on urbanization in all four regressions, though contrary to standard urbanization-development theory, seems to reflect absorption of labor in agriculture which would otherwise migrate to urban areas.

Our last regression results have to do with urban concentration (in double-log):

$$(3) \text{ CONC} = 1.914 - 0.055 \text{ URB} + 0.682 \text{ GRMAN} + 0.655 \text{ GRPOP}$$

$$(0.203) \quad (2.501) \quad (0.802)$$

$$R^2 = 0.34$$

$$(3') \text{ CONC} = 1.020 - 0.192 \text{ URB} + 0.433 \text{ GRMAN} - 0.096 \text{ GRPOP}$$

$$(0.827) \quad (1.761) \quad (0.130)$$

$$+ 0.889 \text{ OPEN}$$

$$(2.822) \quad R^2 = 0.56$$

Among the independent variables in the previous equations, GRMAN and GRPOP were picked for both theoretical and statistical significance reasons (equation 3). URB (similar to IND) is included as a control variable but is not significant. Equation (3') shows that adding degree of openness (OPEN) raises the  $R^2$  by 22 percentage points. All the signs are in accord with expectations although they are not significant for URB and GRPOP. The important thing to note, however, is the significance of the variable OPEN — a 1.0 percent increase in degree of openness raises urban concentration by about 0.9 percent. This result strongly supports our hypothesis that openness of the economy to the foreign sector is a strong incentive for concentration in the principal port and city of the country.

## Conclusion

Asia is still predominantly rural — a reflection of both its low level and pace of development. From within this vast region, however, East Asia has

<sup>10</sup>We also experimented with 2-SLS regressions to deal with possible simultaneity bias but the results were not useful.

sprung forth as a great achiever (at least in a relative sense) in both urbanization and development so that it can now be better associated with advanced countries than with developing Asian countries.

Whether or not South and Southeast Asian countries will follow the trajectory of East Asian countries would depend on many things. The empirical results of an expanded urbanization-development model suggest that, in addition to manufacturing activity and agricultural development, population growth plays a crucial role in urbanization.<sup>11</sup> Population growth seems to result in a slowing down of the urbanization process. Hence, if population growth is going to decelerate in South and Southeast Asian countries, *ceteris paribus*, we could expect faster urbanization in the coming decades.

Another important point to consider is that agricultural development appears to retard urbanization, perhaps because it allows for labor absorption in the rural sector which would otherwise migrate. This could be the effect of agricultural growth at low levels of economic development. It is possible that at higher levels, agricultural development would have the reverse consequence, as observed, for example, in industrialized countries. In any case, the negative relationship between agricultural development and urbanization observed for Asian countries lends further support to the notion that rural/agricultural development can reduce unwarranted migration to cities.

Urban concentration or primacy seems moderate in South Asian countries but high and rising in Southeast Asian countries, including South Korea. It is virtually negligible in the Centrally Planned countries of PROC and North Korea for obvious reasons. There is no clear development-concentration relationship, however, even if the exceptional cases of PROC and North Korea are set aside. Countries like Thailand and South Korea have extremely high concentration ratios but differ substantially with respect to urbanization and development levels. Then there is India which has little concentration, and Bangladesh which is less urbanized and developed than India but has a moderate degree of concentration similar to Japan.

It would seem, therefore, that there are other factors that account for urban primacy differentials (after allowing for measurement problems). Our analysis suggests that degree of openness of the economy, in addition to manufacturing growth, is a significant determinant of the primacy phenomenon. The reason behind manufacturing growth is known: manufacturing activity has invariably been concentrated in the metropolitan capitals of

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<sup>11</sup> Needless to say, one should be cautious about using the results of cross-section analysis for predicting future trends.

many Asian countries. The finding on degree of openness bears out our hypothesis that concentration in the metropolis is a response to the need to be near the principal port as well as to offices that issue licenses and foreign exchange, among other things. Thus, spatial concentration appears to be partly an unintended consequence of macroeconomic and growth policies in the past, salient among which was the now-famous import-substitution industrialization strategy. This point seems worth noting in the design of urbanization and spatial development policies for Asian countries, including the Philippines.

Table 2.1 Urbanization indicators for Selected Asian Regions/Countries, 1950-1980

Region/ Country	Percent Urban				Urban-Rural Ratio <sup>a</sup>				Percent Change in Urban-Rural Ratio		
	1950	1960	1970	1980	1950	1960	1970	1980	1950-60	1969-70	1970-80
<b>South Asia</b>	<u>15.7</u>	<u>17.1</u>	<u>19.1</u>	<u>22.0</u>	<u>0.186</u>	<u>0.207</u>	<u>0.237</u>	<u>0.283</u>	<u>11.3</u>	<u>14.5</u>	<u>19.4</u>
Bangladesh	4.4	5.2	7.6	11.2	0.046	0.054	0.082	0.127	17.4	51.8	54.9
Burma	16.1	19.3	22.8	27.2	0.192	0.239	0.296	0.373	24.5	23.8	26.0
India	16.8	17.9	19.7	22.3	0.202	0.218	0.245	0.286	7.9	12.4	16.7
Sri Lanka	14.4	17.9	21.9	26.6	0.168	0.218	0.280	0.362	29.8	28.4	29.3
Pakistan	17.5	22.1	24.9	28.2	0.212	0.284	0.331	0.392	34.0	16.5	18.4
<b>Southeast Asia</b>	<u>15.0</u>	<u>17.5</u>	<u>19.8</u>	<u>22.7</u>	<u>0.177</u>	<u>0.213</u>	<u>0.247</u>	<u>0.294</u>	<u>20.3</u>	<u>16.0</u>	<u>19.0</u>
Indonesia	12.4	14.6	17.1	20.2	0.142	0.171	0.206	0.253	20.4	20.5	22.8
Thailand	10.5	12.5	13.2	14.4	0.117	0.143	0.152	0.168	22.2	6.3	10.5
Philippines	27.1	30.2	32.9	36.2	0.372	0.432	0.491	0.568	16.1	13.7	15.7
Malaysia	20.4	25.2	27.0	29.4	0.256	0.337	0.369	0.416	31.6	9.5	12.7
<b>East Asia<sup>b</sup></b>	<u>44.6</u>	<u>55.2</u>	<u>64.2</u>	<u>72.5</u>	<u>0.803</u>	<u>1.231</u>	<u>1.795</u>	<u>2.635</u>	<u>53.3</u>	<u>45.8</u>	<u>46.8</u>
South Korea	21.4	27.7	40.7	54.8	0.272	0.383	0.686	1.212	40.8	79.1	76.7
Taiwan	—	58.0	—	77.0	—	1.381	—	3.348	—	—	—
Japan	50.2	62.4	71.3	78.2	1.008	1.659	2.484	3.596	64.6	49.7	44.8
<b>Centrally Planned Asia</b>	<u>11.3</u>	<u>18.9</u>	<u>22.1</u>	<u>26.1</u>	<u>0.128</u>	<u>0.234</u>	<u>0.284</u>	<u>0.353</u>	<u>82.8</u>	<u>21.4</u>	<u>24.3</u>
PROC	11.0	18.6	21.6	25.4	0.124	0.228	0.276	0.341	83.9	21.0	23.6
North Korea	31.0	40.2	50.1	59.7	0.450	0.672	1.003	1.481	49.3	49.3	47.7
<b>World</b>	<u>29.0</u>	<u>33.9</u>	<u>37.5</u>	<u>41.3</u>	<u>0.408</u>	<u>0.513</u>	<u>0.600</u>	<u>0.704</u>	<u>25.7</u>	<u>17.0</u>	<u>17.3</u>
More Developed Regions	52.5	58.7	64.7	70.2	1.107	1.423	1.831	2.350	28.5	28.7	28.3
Less Developed Regions	16.7	21.8	25.8	30.5	0.201	0.280	0.348	0.440	39.3	24.3	26.4

<sup>a</sup>Ratio of urban population to rural population or  $\frac{\text{proportion urban}}{1-\text{proportion urban}}$ .

<sup>b</sup>Regional average for East Asia excludes Taiwan.

Source: Table 2.2 of this Chapter.

Table 2.2 Urban and Rural Populations, and Growth Rates: Asian Regions/Countries, 1950-80

Region/ Country	Urban Population (in millions)				Percent Growth of Urban Population			Rural Population (in millions)				Percent Growth of Rural Population			Urban-Rural Growth Difference		
	1950	1960	1970	1980	1950-60	1960-70	1970-80	1950	1960	1970	1980	1950-60	1960-70	1970-80	1950-60	1960-70	1970-80
<b>South Asia</b>	71.5	95.4	136.3	201.1	33.5	42.8	47.6	384.7	461.8	575.3	711.6	20.0	24.6	23.7	13.5	18.2	23.9
Bangladesh	1.8	2.6	5.1	9.5	48.3	94.4	85.1	39.2	48.8	62.5	75.3	24.3	28.2	20.4	24.0	66.2	64.7
Burma	3.0	4.3	6.3	9.6	44.6	47.8	50.9	15.4	18.0	21.4	25.6	16.6	19.2	19.7	28.0	28.6	31.2
India	59.2	76.6	107.0	154.5	29.2	39.7	44.4	293.4	351.2	436.1	539.8	19.7	24.8	23.8	9.5	19.2	20.6
Sri Lanka	1.1	1.8	2.7	4.1	60.2	54.4	50.1	6.6	8.1	9.8	11.4	23.5	20.5	16.1	36.7	33.9	34.0
Pakistan	6.4	10.1	15.0	23.4	58.7	48.4	55.3	30.1	35.7	45.4	59.6	18.8	27.1	31.2	39.9	21.3	24.1
<b>Southeast Asia</b>	18.4	27.1	40.3	61.4	47.3	48.7	52.3	104.2	127.4	162.9	209.1	22.2	27.9	28.3	25.1	20.8	24.0
Indonesia	9.4	13.5	20.4	31.3	44.4	50.8	53.4	66.1	79.2	99.1	123.6	19.8	25.1	24.7	24.6	25.7	28.7
Thailand	2.1	3.3	4.7	7.1	57.5	43.1	50.5	17.9	23.1	31.0	42.4	28.9	34.3	36.6	28.6	8.8	13.9
Philippines	5.7	8.3	12.4	18.9	45.8	49.2	52.6	15.3	19.2	25.2	33.3	25.6	31.3	32.0	20.2	17.9	20.6
Malaysia	1.3	2.0	2.8	4.1	58.2	41.6	45.6	4.9	5.9	7.6	9.9	20.0	29.2	29.4	38.2	12.4	16.2
<b>East Asia<sup>a</sup></b>	46.3	65.6	87.2	112.9	41.5	32.9	29.5	57.6	53.2	48.5	42.9	-7.7	8.8	-11.8	49.2	41.7	41.3
South Korea	4.3	6.8	12.8	20.9	57.4	86.6	63.9	16.0	17.8	18.6	17.3	11.5	4.2	-7.2	45.9	82.4	71.1
Taiwan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Japan	42.0	58.8	74.4	92.0	39.9	26.7	23.6	41.6	35.4	29.9	25.6	-15.0	-15.4	-14.6	54.9	42.1	38.2
<b>Centrally Planned Asia</b>	64.4	125.9	173.7	241.1	95.5	37.9	39.0	503.5	539.1	612.0	684.2	7.1	13.5	11.8	88.4	24.4	27.2
PROC	61.4	121.7	166.7	230.7	98.2	37.0	38.4	496.8	532.8	605.1	677.0	7.2	13.6	11.9	91.0	23.4	26.5
North Korea	3.0	4.2	7.0	10.7	39.9	64.4	53.8	6.7	6.3	6.9	7.2	-6.3	10.2	4.2	46.2	54.2	49.6
<b>World</b>	724.1	1012.1	1354.4	1806.8	39.8	33.8	33.4	1776.9	1973.7	2255.8	2567.0	11.1	14.3	13.8	28.7	19.5	19.6
More Developed Regions	448.9	572.7	702.9	834.4	27.6	22.7	18.7	405.5	402.4	383.9	355.0	-0.8	-4.6	-7.5	28.4	27.3	26.2
Less Developed Regions	275.2	439.3	651.6	972.4	59.6	48.3	49.3	1371.4	1571.3	1871.9	2212.0	14.6	19.1	18.2	45.0	29.2	31.1

<sup>a</sup>Regional average for East Asia excludes Taiwan.

Source: United Nations, *Patterns of Urban and Rural Population Growth*, 1980, Annex II, Table 48 and 49.

Table 2.3 Urban Concentration Indicators: Asian Countries, 1960-80

Country	Percentage of Urban Population						Number of Cities Over 500,000 Persons			Index of Primacy <sup>a/</sup>		
	In Largest City			In Cities of Over 500,000 Persons								
	1960	1970	1980	1960	1970	1980	1960	1970	1980	1960	1970	1980
Bangladesh	20	25	30	20	39	51	1	2	3	0.80	1.0	1.20
Burma	23	23	23	23	23	29	1	1	1	1.56	1.81	1.89
India	7	6	6	26	31	47	11	19	36	0.68	0.56	0.46
Sri Lanka	28	20	16	0	20	16	0	1	1	4.85	2.17	1.92
Pakistan	20	21	21	33	50	52	2	6	7	0.88	0.95	0.99
Indonesia	20	22	23	34	44	49	3	6	1	1.15	1.32	1.48
Thailand	65	68	69	65	68	68	1	1		—	—	—
Philippines	27	29	30	27	29	36	1	1	3	3.55	3.68	3.71
Malaysia	19	23	27	0	23	27	0	1	1	0.96	0.99	1.17
South Korea	35	42	41	61	69	77	3	4	7	1.07	1.52	1.49
Taiwan												
Japan	18	20	22	35	38	41	5	7	9	1.25	1.35	1.48
PROC	6	6	6	42	41	44	38	47	65	0.72	0.72	0.71
North Korea	15	13	12	15	13	19	1	1	2	1.00	0.85	0.73

<sup>a</sup>Ratio of population of largest city to the combined populations of the second, third and fourth largest cities.

Source: World Bank, *World Development Report*, 1980, Annex Table 20; and United Nations, *Patterns of Urban and Rural Population Growth*, 1980, Annex Tables 48 and 50.



Table 2.4 Average Annual Percent Growth Rates of Population, GDP and Sectoral Production:  
Asian Countries, 1960-70, 1970-78

Country	Population		GDP		Agriculture		Industry		Manufacturing		Services	
	1960-70	1970-78	1960-70	1970-78	1960-70	1970-78	1960-70	1970-78	1960-70	1970-78	1960-70	1970-78
Bangladesh	2.5	2.7	3.6	2.9	2.7	1.6	7.9	5.9	6.6	5.3	3.8	4.7
Burma	2.2	2.2	2.6	4.0	4.1	3.6	2.8	4.5	3.3	4.2	1.5	4.2
India	2.5	2.0	3.6	3.7	1.9	2.6	5.5	4.5	4.8	4.6	5.2	4.6
Sri Lanka	2.4	1.7	4.6	3.4	3.0	2.3	6.6	3.0	6.3	1.2	4.6	4.3
Pakistan	2.8	3.1	6.7	4.4	4.9	1.9	10.0	4.8	9.4	3.5	7.0	6.2
Indonesia	2.2	1.8	3.5	7.8	2.5	4.0	5.0	11.2	3.3	12.4	8.0	8.7
Thailand	3.0	2.7	8.2	7.6	5.5	5.6	11.6	10.2	11.0	11.5	9.0	7.4
Philippines	3.0	2.7	5.1	6.3	4.3	4.9	6.0	8.6	6.7	6.8	5.2	5.4
Malaysia	2.9	2.7	6.5	7.8	—	5.0	—	9.6	—	12.3	—	8.4
South Korea	2.4	1.9	8.5	9.7	4.5	4.0	17.2	16.5	17.2	18.3	8.4	8.7
Taiwan	2.6	2.0	9.2	8.0	3.4	1.6	16.4	12.9	17.3	13.2	7.8	4.1
Japan	1.0	1.2	10.5	5.0	4.0	1.1	10.9	6.0	11.0	6.2	11.7	5.1
PROC	2.1	1.6	5.0	6.0								
North Korea	2.8	2.6	7.8	7.2								

Source: World Bank, *World Development Report*, 1980, Annex Tables 2 and 17.

Table 2.5 Percentage Distribution of GDP: Asian Countries, 1960-78

Country	Agriculture			Industry			Manufacturing			Services		
	1960	1970	1978	1960	1970	1978	1960	1970	1978	1960	1970	1978
Bangladesh	61	59	57	8	10	13	6	7	8	31	31	30
Burma	33	38	46	12	14	13	8	10	10	55	48	41
India	50	47	40	20	22	26	14	14	17	30	31	34
Sri Lanka	34	34	35	22	19	31	17	12	23	44	47	34
Pakistan	46	37	32	16	22	24	12	16	16	38	41	44
Indonesia	54	47	31	14	18	33	8	9	9	32	35	36
Thailand	40	28	27	19	25	27	13	16	18	41	47	46
Philippines	26	28	27	28	30	35	20	23	25	46	42	38
Malaysia	37	32	25	18	26	32	9	14	17	45	42	43
South Korea	40	30	24	19	27	36	12	18	24	41	43	40
Taiwan	28	15	10	29	41	48	22	33	38	43	44	42
Japan	13	6	5	45	47	40	34	36	29	42	47	55

Source: World Bank, *World Development Report, 1980*, Annex Table 3; and *World Tables, 1980* (Second Edition), Table 4, pp. 392-395.

Table 2.6 Export and Import Shares of GDP (in percent)

Country	Exports of Goods and N.F.S. <sup>a</sup>			Imports of Goods and N.F.S. <sup>a</sup>		
	1960	1970	1977	1960	1970	1977
Bangladesh	10.0	8.3	9.1	9.3	12.5	15.7
Burma	19.7	5.2	6.0	20.7	8.7	10.0
India	5.3	4.1	6.2	8.3	4.7	7.1
Sri Lanka	29.8	17.5	23.4	32.8	19.7	20.7
Pakistan	8.4	7.8	9.5	15.0	14.6	19.4
Indonesia	13.3	12.8	21.6	12.6	15.8	18.8
Thailand	17.4	16.7	21.5	18.9	21.5	27.0
Philippines	10.6	19.1	19.0	10.4	19.4	22.5
Malaysia	53.6	43.8	50.3	40.8	39.2	41.9
South Korea	3.4	14.3	35.6	12.8	24.1	35.6
Taiwan	11.1	29.5	53.5	18.6	29.6	47.8
Japan	11.0	10.8	13.1	10.5	9.5	11.4

<sup>a</sup> N.F.S. means non-factor services.

Sources: World Bank, *World Tables*, 1980 (Second Edition), Table 3.

## CHAPTER 3

# ECONOMIC POLICIES AND SPATIAL AND URBAN DEVELOPMENT

The first three quarters of the century saw profound changes in the Philippine economy. Over the period 1900-75, the country experienced a more than quintupling of its population and a roughly twenty-one-fold increase of the total number of industrial establishments. This was accompanied by a structural transformation of the economy as exemplified by the evolution of a rural economy to an industrializing one as well as by shifts away from some industries towards others. Estimates of gross value added indicate that in 1903, the primary (agricultural) sector accounted for 55 percent of total output, followed by the tertiary (service) sector with 32 percent and the secondary (industrial) sector with 13 percent.<sup>1</sup> By 1975, the primary sector's share had declined to 27 percent, with the tertiary and secondary sectors contributing expanded shares of 40 and 33 percent, respectively (Table 3.1).

Running parallel to the structural transformation of the economy was its changing spatial configuration. In general, the 75-year period saw a secular increase in the primacy of Metropolitan Manila, the national capital region (NCR). Already the administrative capital and economic center of the country at the turn of the century, Manila steadily became more dominant especially in the post-war period. From a share of 4.9 percent of total population and 6.5 percent of industrial employment in 1903, Metro Manila accounted for 12.4 percent of population and 47.4 percent of industrial employment by 1975 (Table 3.1). These changes were in response to the long-term influence of broad historical forces and to the changing regimes of macroeconomic and trade policies. These developments, especially those that are traceable to policy shifts, are examined in the present chapter.

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<sup>1</sup>There is strong reason to believe that the share of agriculture in gross value added failed to reflect the essentially agricultural state of the economy because of the following occurrences: the Philippine-American War in the early 1900s, the outbreak of cholera epidemic and the destruction of crops by the locusts and rinderpests (Willis 1905).

Table 3.1 Percentage Distribution of Output, Industrial Employment and Population, by Broad Sector and Region

	Output			
	1903	1975		
<i><u>Broad Economic Sector</u></i>				
Primary	55.0	26.6		
Secondary	13.4	33.2		
Tertiary	31.6	40.2		
<hr/>				
	1903	1975		
	Industrial Employment	Population	Industrial Employment	Population
<i><u>Broad Region</u></i>				
National Capital *	6.5	4.9	47.4	12.4
Metropolitan Periphery	23.1	22.2	16.2	21.8
Traditional Agricultural	67.1	59.6	22.2	39.5
Frontier	3.3	13.3	14.2	26.3

\*Includes the rest of Rizal province.

Sources: Hooley (1966) – for 1903 output; NEDA, *The National Income Accounts, CY 1946-75, 1978* – for 1975 output; 1903 *Population and Economic Census* – for 1903 industrial employment and population; 1975 *Census of Establishments* – for 1975 industrial employment; 1975 *Population Census* – for 1975 population.

Each policy regime or period tended to favor some regions over others and this became imprinted on the socioeconomic landscape. Discernible similarities in economic activity and their responses to policies call for the grouping of regions into broad categories which help highlight the more important spatial developments. The broad regions are as follows (see Map 3.1):

1. Metropolitan Manila – National Capital Region (NCR).
2. Metropolitan Periphery (MP): Central Luzon and Southern Tagalog.
3. Traditional Agricultural Region (TAR): Ilocos, Bicol, Eastern Visayas, Western Visayas, and Central Visayas.
4. Frontier Region (FR): Cagayan Valley, Northern Mindanao, Western Mindanao, Central Mindanao, and Southern Mindanao.

The rationale for this delineation will become clearer as the analysis progresses. The metropolitan periphery (MP) is treated separately because, as will also be shown, it evolves from being a member of the traditional agricultural region (TAR) to being under the influence of the national capital region (NCR). A more recent classification would lump all three regions of the NCR, Central Luzon and Southern Tagalog as one – the central industrial region (CIR).

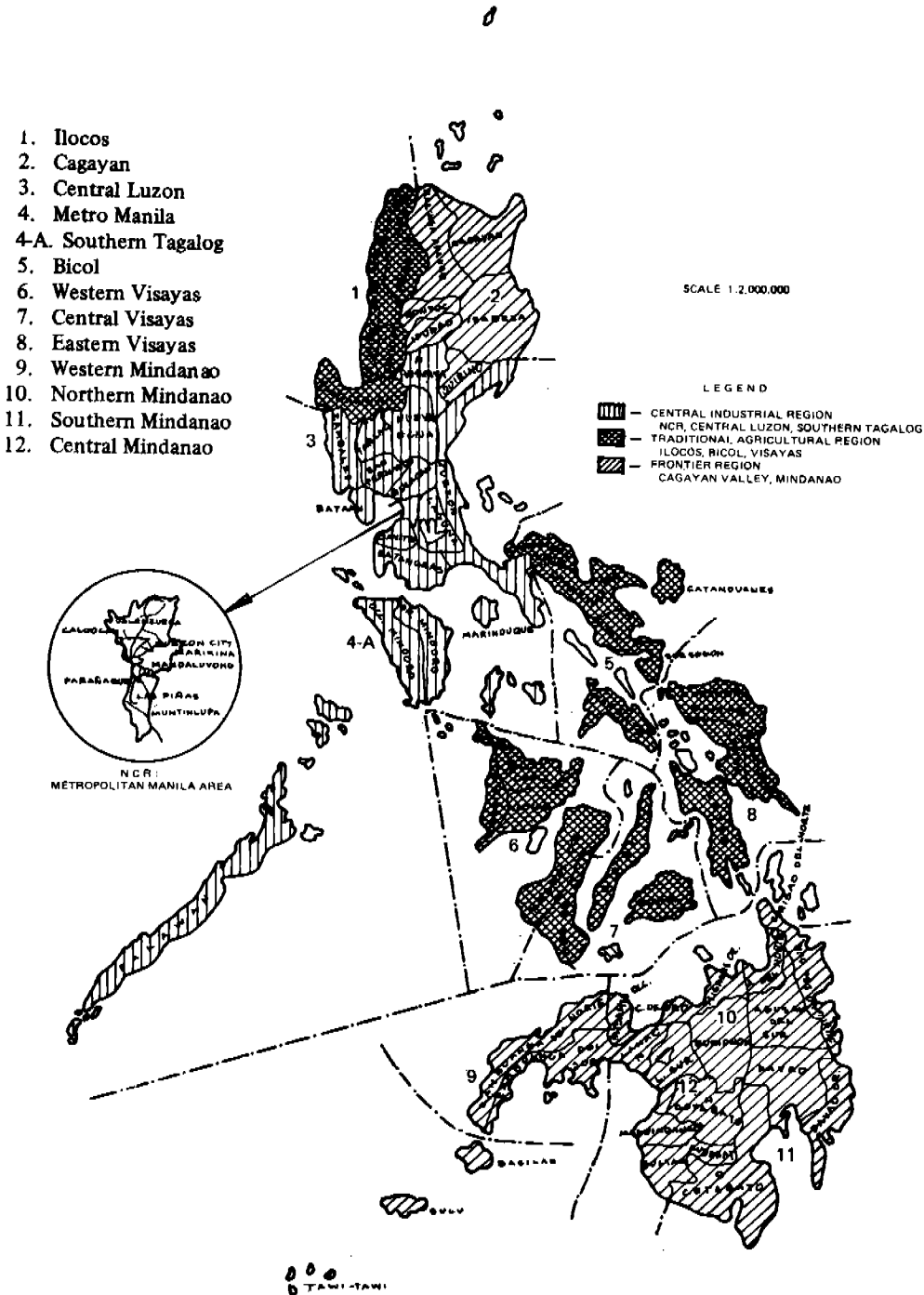
### Spatial-Temporal Developments

An historical review of economic policies reveals the change in attitude from that of a colonizer, the United States, attempting to integrate a colony into its production and market sphere to that of an independent country, the Philippines, trying to chart its own destiny. The incorporation of the colonial economy required that the Philippines specialize in those products where it possessed comparative advantage relative to the American economy, rather than attempt a balanced industrial structure. It was reasonable to expect that each region on its own would in time mesh closely with the rest of the American market instead of the different regions getting more closely intertwined with each other.<sup>2</sup>

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<sup>2</sup>Alternatively, one could say that each region's development would be dictated by its comparative advantage vis-a-vis the whole American economy instead of its own comparative advantage in relation to the other Philippine regions.

Map 3.1 Philippines: Broad Economic Regions – NCR, CIR, TAR and FR



*The Colonial Period, 1900-39*

At the turn of the century, the level of economic activity in the country was relatively low and the pattern of settlements was generally dispersed. The island of Mindanao was virtually unexplored and four hundred years of Spanish rule had left a traditional agricultural economy oriented towards the production of export crops. Such was the take-off setting of the special trade relationship between the Philippines and the United States.

The task of the American policymakers at the start of their occupation was basically quite simple. To effect an integration into the American market, all that had to be done was to lower the barriers to trade between the Philippines and the United States. This was implemented by a series of tariff laws starting in 1902.<sup>3</sup> By 1913, the task of freeing trade was essentially accomplished with the Underwood-Simmons Act although minor changes were continually being made up to the middle of the 1930s. The common theme of all these acts was the unrestricted flow of Philippine and American goods with minor concessions to vested groups on both sides of the Pacific. Because of historical antecedents and by virtue of the Philippine economy's comparative advantage, the end result was a very strong encouragement for the production of primary products. The Philippine Independence Act of 1934 continued the spirit of the earlier laws, at least for the 10-year transition before actual independence would be granted.

The initial picture given by the 1903 Census shows the economy largely pivoting around the traditional agricultural region (TAR) as manifested by its share of industrial employment and population at about three-fifths of the total.<sup>4</sup> This pattern persisted throughout the Colonial Period although changes became evident over time. If one adds the shares of Southern Tagalog and Central Luzon (the metropolitan periphery), which at that time were agricultural areas, the importance of the TAR is further emphasized. The structure of services closely followed agriculture's geographical distribution.

External developments led to a decline of the agricultural sector's share during the 1918-39 period. In particular, services which were largely ancillary to agriculture reflected this trend. The share of industrial output, on the other hand, increased during this latter part of the Colonial Period, signaling initial industrialization. At the end of the period, industrial output would be much more diversified than at the outset. Geographically, these developments were manifested in the maintenance of the share of the TAR

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<sup>3</sup> See Reyes and Paderanga's Special Paper in this volume for an elaboration.

<sup>4</sup> Presentation of the data and more detailed discussion are provided in Hermoso's Special Study in this volume.



and the surge of the frontier region (FR), although at a declining rate in the second half of the era.

In the face of the decline of agriculturally-based industries in the later part of the Colonial Period, the NCR evinced comparative advantage in industrial activity. Economic statistics for the manufacturing sector such as average size of firms, capital intensity, and labor and capital productivity are shown to be highest for the NCR. Furthermore, indices of industrial specialization show that the NCR tended to specialize in industry, the FR in agriculture, and the TAR in diversified activities. Thus, even while it was being adversely affected in a relative sense by the general policies of the Colonial Period, the national capital and its environs already exhibited its potential as the base for the impending industrialization.

### *The Import Substitution Period, 1948-67*

The formal cutting of the close ties between mother country and colony on July 4, 1946 dictated a different set of priorities for the newly independent economy. Access to markets became mutually more difficult although "special relations" would persist for a longer period. For the Philippines, this implied that a larger portion of its use of industrial products would have to be generated from within. Consequently, the various regions would now have to evolve differently. This new relationship would be manifested in two ways: first, the new policy regime would require that the regions interact among themselves more closely; second, following the comparative advantage of some locations, some regions would become more industrialized than others. The new set of policies necessary to make the country more economically independent would, therefore, imply some transformation and rearrangement of the regional patterns of growth and economic activity.

The main policies used to implement the new thrust during the immediate post-war period were exchange and import controls. Rather than adjust the overvalued peso, policymakers saw in it a chance to direct capital funds to preferred industries at subsidized rates. In order to make the official exchange rate stick, the use of foreign exchange for importations had to be controlled and a system of priorities instituted. In keeping with the overall strategy, import-substituting activities, like textile and appliance manufacturing, were preferred.

Another major component of the package included tax incentives for preferred industries that were classified as "new and necessary". Typically, these incentives took the form of exemptions from taxes, sometimes even income taxes, for limited periods of time.

Completing the three main planks of the program was a comprehensive restructuring of the tariff structure. Tariffs were structured to include some discrimination between types of commodities. They were essentially biased

towards the production of non-essentials and the importation of so-called essential items (Power and Sicat 1970). The tariff structure, together with the tax incentives, reinforced the priorities imposed by the monetary system, and was later instrumental in letting the import-substitution bias persist after exchange and import controls were dismantled in 1961.

A host of other policies backed up the major control instruments of the period. Among these were selective credit policies that also discriminated in favor of "preferred" industries. These were further strengthened as the government set up institutions charged with supplying long-term financing to investors. Still other instruments, albeit unintentional, were measures to keep the price of consumption goods down, which, naturally, had the effect of discouraging the domestic production of these mostly agricultural commodities. The final policy of the period was the continued raising of the minimum wage in response to agitation in the urban areas where standards of living and skill levels were higher. Whatever its applicability for urban areas, it was invariably too high relative to wages in rural areas. Its unintended result was to discourage labor-intensive industries and further bias investment toward the capital-intensive, import-substituting activities.

The bias in favor of capital-intensive industries was the common thrust of the whole package of policies during this period. It was by far the most important side effect of the import-substituting scheme, epitomizing the complete turnaround in strategy from the promotion of exports before Independence.

The shifting of policy gears during the immediate post-independence period led to a phase of dramatic economic changes. Starting with relatively dispersed industries, this era witnessed the evolution toward more spatial concentration. The 1948 Census, for instance, shows a spectrum of localization indices with mining/quarrying and other resource-oriented industries characterized by relative spatial concentration. These were followed by the transportation, communication, storage and manufacturing in descending order of concentration. Utilities had a low index of localization, indicating relatively low provision of this infrastructure throughout the islands. The ubiquity of agriculture, by contrast, led to an extremely low index of localization of concentration.<sup>5</sup>

In 1961, the localization indices for all industries, except agriculture, indicated higher concentration. This was particularly true for construction and utilities which followed the preferences of firms and households to locate in the NCR, or more broadly the CIR. It may also be noted that resource-oriented industries yielded relatively high values for the index of

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<sup>5</sup>*Localization index* denotes the tendency of employment in a particular economic sector to be spatially dispersed (if low value) or spatially concentrated (if high value). *Index of locational change*, a comparative static index, measures the degree of change in the spatial distribution of an economic activity over a given time period. More detailed discussion is given in Hermoso's Special Study.

locational change during the 1948-61 period, implying that the locale of these activities moved about as different sources were exploited.

The main beneficiary of the package of policies during the Import Substitution Period was the NCR and, especially toward the end of the period, also the metropolitan periphery. The comparative advantage that the NCR enjoyed was now being utilized to the maximum as the impact of policies that favored it became felt. The growth stimulus also spilled over into its periphery and, consequently, the NCR and its expanded version, the CIR, was growing at a rate disproportionately faster than the rest of the economy. The CIR's role as the leading region appeared to be self-sustaining as its industrial structure became more integrated. For example, in response to the increasing urbanization and industrialization in Metro Manila, Central Luzon's agriculture became more intensive in character and exhibited a rising trend in yield per hectare, supporting a rapidly increasing population density.

Meanwhile, the frontier region (FR) experienced some kind of resurgence during this period. The unexploited natural resources of the region and government-sponsored relocation programs initially induced significant immigration, and resource-based industries were set up. The FR therefore led the rest of the country in rural population and agricultural growth.

The growth of the CIR was at the expense of the traditional agricultural region (TAR). Since the policies implicitly taxed the predominant economic activities in this region, the TAR experienced diminishing shares and sluggish growth in population and economic activity all throughout the Import Substitution Period. A by-product of the burden effectively imposed on agricultural production and the simultaneous bias for the capital region was that the activities of the TAR largely remained diversified.

The period of rapid growth due to import substitution could not last indefinitely, however. By the latter part of the period (1961-67), the rate of growth started to slacken. This was true of all regions as the possibilities for import substitution became used up and the growth of agriculture and exports remained discouraged by the unintended effects of policy. Removal of some of the major policies of the early import-substitution stage, like exchange controls, was negated by the increasing effectiveness of the other policies, such as the tariff structure, that had been installed in connection with the overall strategy. As a result, the essence of the earlier policy thrust continued to be operative for some time.

### *The Regional Awareness Period, 1970s*

Towards the end of the 1960s, policy interest shifted from import substitution to export promotion. At the same time, the government displayed a conspicuous awareness of the spatial dimension of development.

The indirect effect of the new theme of export promotion was the renewed invigoration of traditional exports which are based in the TAR. Explicit consideration of the spatial aspect also found its way into investment priority and loan granting formulae.

Major indications of the change in emphasis were the various incentive acts of the late 60s and early 70s, especially the Investment Incentives Act of 1967 which also created the Board of Investments (BOI). Over time, the BOI has refined its priority formula by explicitly including employment creation, export promotion and geographical diversification among its objectives. All of these three aims have strong implications for spatial development.

The encouragement given to the agricultural sector in order to attain self-sufficiency in food and the incentives for export generation also tend to exert beneficial effects on regions outside the CIR. Additionally, direct policies for regional dispersal, such as the fifty-kilometer radius ban in Manila and concerted efforts at integrated area development, have been instituted. An indirect policy but one of lasting effect is the national infrastructure program which is considered a precondition for regional development.

The installation of the new policy regime was spread out over an extended period and is still continuing. While the Investment Incentives Act and the Export Promotion Act were passed in 1967 and 1970, respectively, other measures like the revision of the tariff structure were not started until 1980. The period available for an evaluation of the new thrust is, therefore, still too short for any definitive trend to show. Still, early data on the direct effects of the first policies already seem to indicate changing directions. The regional distribution of projects approved by the Board of Investments from 1968 to 1974, for example, shows the share of the CIR to be just a little more than one-half of total approved projects (cf. Reyes and Paderanga's Special Paper). While still biased in favor of the capital region and its periphery, the regional shares are not as lopsided as was the case during the import substitution era. Nevertheless, as will be shown in the next chapter, there was little change in the proportion of manufacturing activity found in the CIR between 1967 and 1975. Just how far subsequent spatial patterns will differ from the past will depend on how effectively the new policies are enforced and what complementary measures are adopted to seriously pursue the regional development goal.

### The Development of the City System

The forces that have shaped the overall growth of the economy and its accompanying spatial configuration necessarily also left deep imprints on the

system of cities. Cities have developed in varying ways and at different rates corresponding to their roles in the regions and in the country as a whole. They tend to reflect the importance of their regions of influence as well as their relationship to the macroeconomy. The predominance of Metro Manila, for example, manifests not only its centrality in the economy; it also shows the importance of the central industrial region of which it is a part. It is therefore also instructive to examine the structure and changes of the urban system which serves as the neural network of the economy.

### *Hierarchy of Settlements before 1900*

The pattern of settlements during the pre-colonial period reflected both the prevailing political decentralization (because the basic socio-political unit was the barangay) and the economic activity in the settlements. Most of the largest communities were coastal villages engaged in extensive external trade. Manila and Cebu were large agricultural and fishing villages with strong secondary trade functions.

Urban clusters were established during the Spanish colonial regime to act not only as trading centers but also as defensive points from which control of indigenous villages was possible. Doeppers (1972) identified a three-level hierarchy of settlements: (a) capital city with Manila directing the affairs of the country; (b) provincial centers (ciudades and villas) which were centers of military, political and ecclesiastical control and composed of Cebu, Naga, Nueva Segovia, all ciudades and villas in Panay, and Fernandia (Vigan); and (c) central church village or cabeceras which became the focal points of activity and cultural change. These settlements were given functional importance and social prestige which distinguished them from other settlements.

In the late nineteenth century, the end of the Spanish colonial period, the urban hierarchy that evolved mirrored the economic development of that period. Consistent with the development pattern and the "pacification" level of that time, the urban hierarchy in 1900 was such that urban places were not evenly distributed. Almost half of the third-ranked towns, for instance, was concentrated in Southern Tagalog and Central Luzon; and Cebu and Iloilo, both second-ranked cities, were found in the Visayas.

### *The Urban System since 1900*

Since the turn of the century, the urban system has been growing both in terms of the proportion urban of the total population and the number of urban places. Likewise, there have been remarkable mutations within the

urban hierarchy in the past 75 years. Membership in the top thirty urban places, for example, has continually changed, implying that centers of population and economic activity have been shifting (cf. Hermoso's Special Study). The earlier census years have more top central places located in Luzon and in the other traditional agricultural regions (the Visayas), reflecting the earlier development of places closer to the seat of government (such places were, therefore, more easily "pacified"). The later years show the representation to be more evenly balanced among regions (cf. Soliman and Paderanga's Special Paper).

Through all of the policy shifts, the country's urbanization level (proportion urban) has been rising though at uneven rates, indication that the ultimate effect of rising real incomes cannot be completely offset by policies which encouraged the growth of the rural sector during the colonial period or during the more recent regional awareness phase. Furthermore, there is evidence showing that in spite of the dispersing effect of colonial policies on the growth pattern of the regions, Metro Manila experienced a secular trend of increasing primacy, as illustrated by the two indicators in Table 3.2.

Table 3.2 Indices of Urban Concentration

	<u>1903</u>	<u>1918</u>	<u>1939</u>	<u>1948</u>	<u>1960</u>	<u>1970</u>	<u>1975</u>	<u>1980*</u>
Index of Primacy	1.75	1.73	2.07	3.24	3.23	3.44	3.54	3.44
Pareto Coefficient	-0.85	-0.80	-0.70	-0.60	-0.59	-0.58	-0.55	-0.56

\*Preliminary.

Source: cf. Hermoso's Special Study.

The first is the four-city index of first-city primacy which shows the predominance of the largest city over the next three urban centers. The second indicator is the coefficient of the rank size distribution of cities which is an empirically estimated function showing the relationship between the rank of a city and its size. Over the census years, the Pareto coefficient has been increasing algebraically, meaning that the larger cities have been growing faster than the smaller ones.<sup>6</sup>

<sup>6</sup>Alternatively, since the sign is negative, the absolute value has been decreasing.

Both statistics show that the national capital has been growing faster than places fulfilling ordinary central functions, and that the growing population and increasing income required that higher levels of central services be supplied. Another source of rapid growth for Manila was the export orientation of economic activity during the Colonial Period which required the development of a good administrative machinery and an international port. During the Import Substitution Period, the need for industries to be in the capital city to procure import licenses and to bring in imported inputs gave further impetus to its growth.

As far as the urban system is concerned, the effects of the changing constellation of policies may be seen in the shifting patterns of the urban places and population. At the start of the century, the traditional agricultural region (TAR) accounted for about three-fourths of urban places. As a reflection of the decline of the TAR's importance after World War II and partly as a result of the growth of the frontier region (FR), this share dropped to 44 percent in 1975. Perhaps the most visible effects of policy changes may be found in the urban population of the metropolitan periphery, a region that shifted from the TAR category to become part of the CIR in the late 60s. From 1903 to 1948, what is now the CIR suffered declining shares in urban settlements at a time when Metro Manila was already increasing its primacy, implying that during that earlier period, the metropolitan periphery was suffering from Manila's backwash effects. At that time, a separate magnet was also being exerted by the TAR which was receiving the boon of free trade with the United States. During the Import Substitution Era when policy tended to encourage the rapid growth of the national center, spillover effects were felt in the metropolitan periphery, and the whole CIR rapidly increased its share of urban places. The FR, having characteristics not too different from the TAR, showed the reverse of CIR's trend although, in general, its share of urban population and settlements was increasing as it was slowly being filled up.

### The Present Hierarchy of Cities

The conceptual description of cities as belonging to a hierarchically arranged system is based on the notion that cities are central places performing progressively more comprehensive services not only for the city population itself but also for the surrounding areas. Higher order places offer a wider array of goods and services and have larger tributary areas than lower order places. With that hierarchy, classes of cities are distinguished according to what and how many functions the cities fulfill. The hierarchical classification of cities based on relative importance and complexity, therefore, leads to a recognition of differences among cities from one region to ano-

ther. At the same time, knowing that the needs of the tributary areas represent a demand for central functions, differences among cities also point to differences among the regions themselves.

A classification of Philippine cities was carried out using data on chartered cities of 1975 and provincial capitals (cf. Soliman and Paderanga's Special Paper). Chartered cities were used because they are autonomous government units with taxing power not enjoyed by ordinary municipalities, thereby giving them greater leeway in the provision of urban services. Provincial capitals, on the other hand, serve as administrative, transportation and communication centers. Generally, provincial capitals rank first in urban population, commercial and industrial establishments, utilities, and facilities relative to other towns. Most provincial capitals are also chartered cities.

Seven types of urban centers are identified: (a) the national center and regional center for Luzon: Metro Manila; (b) broad regional centers: Metro Cebu and Davao City; (c) regional centers: Iloilo, Bacolod, Cagayan de Oro, Zamboanga, Tacloban, Legaspi, Cotabato, and San Fernando (La Union). The other chartered cities are classified as (d) major urban centers; (e) secondary urban centers; (f) minor urban centers; and (g) satellites, depending on the types of central functions and service activities present (Table 3.3).

*National Center.* Metro Manila with a population of about 5.9 million in 1980 is close to eight times larger than the next largest urban center, Metro Cebu, with a population of 767 thousand in the same year. The primacy of Manila has been brought about by historical forces, natural endowments and economic policies making it the dominant political, administrative, commercial and industrial center of the country.

*Broad Regional Centers.* Metro Cebu serves as the regional center for the Visayas. Its domestic trade by water for the year 1973-74, for example, was bigger than Manila's because its only connection with the other areas is by water while Manila has the longest land connections. Cebu's strategic location and accessibility make it the trading center for the central part of the Philippines. Its influence extends beyond its immediate hinterland to Eastern Visayas and the northern half of Mindanao.

Davao City, the third broad regional center, is the largest settlement in Mindanao and is agriculture-based. In addition to the export of abaca and maize production, an examination of its narrow industrial base reveals that wood industry has also been a leading industry in the past. It possesses a deep water port for international shipping and has one of the country's leading hotels.

Broad regional centers have a whole complex of central functions in



Table 3.3 Classification of Cities: the Urban Hierarchy

<i>Cities</i>	<i>Region</i>
<i>National and Broad Regional Center</i>	
Metro Manila	Philippines and Luzon
<i>Broad Regional Centers</i>	
Metro Cebu Metro Davao	Visayas Mindanao
<i>Regional Centers</i>	
Iloilo	Western Visayas
Bacolod	Western Visayas
Cagayan de Oro	Northern Mindanao
Zamboanga	Western Mindanao
Tacloban	Eastern Visayas
Legaspi	Bicol
Cotabato	Eastern Mindanao
San Fernando (La Union)	Ilocos
<i>Major Urban Centers</i>	
Angeles	Central Luzon
Olongapo	Central Luzon
Butuan	Northern Mindanao
Batangas	Southern Tagalog
Iligan	Eastern Mindanao
San Pablo	Southern Tagalog
Cabanatuan	Central Luzon
Dagupan	Ilocos
Ormoc	Eastern Visayas
Naga	Bicol
Ozamis	Northern Mindanao
Dumaguete	Central Visayas
Tarlac	Central Luzon
Baguio	Ilocos
General Santos	Southern Mindanao
San Fernando (Pampanga)	Central Luzon

<i>Cities</i>	<i>Region</i>
<i>Secondary Urban Centers</i>	
Tuguegarao	Cagayan
Lucena	Southern Tagalog
San Carlos (Negros Occidental)	Western Visayas
Roxas	Western Visayas
Laoag	Ilocos
Pagadian	Western Mindanao
Surigao	Northern Mindanao
Dipolog	Western Mindanao
Daet	Bicol
Gingoog	Northern Mindanao
<i>Minor Urban Centers</i>	
Oroquieta	Northern Mindanao
Cavite	Southern Tagalog
Toledo	Central Visayas
Iriga	Bicol
Marawi	Eastern Mindanao
<i>Satellites</i>	
Cadiz	Western Visayas
Lipa	Southern Tagalog
Silay	Western Visayas
San Carlos (Pangasinan)	Ilocos
La Carlota	Western Visayas
Bago	Western Visayas
San Jose	Central Luzon
Danao	Central Visayas
Dapitan	Western Mindanao
Bais	Central Visayas
Tangub	Northern Mindanao

**Note:** The classification was done on the basis of whether or not specific central economic functions were being performed in each city. An alternative classification scheme that considered the provision of social services came out with almost identical results (cf. Soliman and Paderanga's Special Paper in this volume).

contrast to the lower types of centers. They have adequate hospitals, universities, recreation and tourist facilities, telephone and other communication facilities, roads and other transport modes. Their large trade area requires an extensive transportation system which serves to link the center with the surrounding hinterland as well as with the lower types of centers. They possess a primary or a secondary port facility and an international or trunk-line type of airport.<sup>7</sup> The presence of other economic functions such as breweries, softdrink warehouse and branch plants, depots of major oil companies, and the availability of local and provincial buses for cities with fairly good roads distinguish broad regional and regional centers from lower types of urban centers.

*Regional Centers.* Cities classified as regional centers rank next to broad regional centers on the basis of measures used in discriminating various classes of cities. These centers possess the same types of service functional units as broad regional centers except that they have less service type establishments. The significant role of these cities as a link to the region and the national economy makes the different economic and service functional establishments locate in these cities. Regional centers have recently become the focus of the development thrust of the government.

Depending on the region's level of development, a regional center serves as a substitute for the broad regional center where this (broad regional center) is absent. Except for Western Visayas which has two regional centers (Iloilo and Bacolod), almost all other regions have one regional center. The exceptions are Cagayan Valley, Central Luzon and Southern Tagalog. Since Central Luzon and Southern Tagalog are parts of the CIR, the cities in these two regions tend to be satellites of Metro Manila rather than true central places on their own. The absence of a regional center for Cagayan Valley may be natural for its level of development.

*Major Urban Centers.* These are important because they provide basic urban services, i.e., health, education, transport and communication services to the surrounding areas. Apart from the kind of services present, there are additional features about the geographic area needed in the classification of cities. It is important to consider the spatial relationships among urban centers as well as the volumes of traffic flows for cities with extensive road networks. The volume of traffic flow does not only delimit the extent of the trade area but is also used as an indicator of the size of the hinterland. Thus, the volume of cargo of principal ports is another measure used in classifying

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<sup>7</sup>Primary ports are capable of handling domestic and foreign traffic of national significance; secondary ports serve the main population centers of the region. An international airport is used for operation of aircraft engaged in international air navigation; a trunkline airport serves commercial centers of the Philippines.

major urban centers. Most of these major urban centers have tertiary ports and secondary airport facilities.<sup>8</sup>

*Secondary Urban Centers.* These centers offer the minimum service functions usually confined to health or education services. With regard to such economic variables as the number of commercial banks, number of large wholesale establishments, and type of port and airport facilities, secondary urban centers have the least.

*Minor Urban Centers and Satellites.* Cities comprising minor urban centers lack most of the different types of economic and service activities which higher order centers offer. Still, these centers perform minimal services of some type or another for their tributary area. These centers possess at least one of the factors used as a measure of centrality. For example, cities like Toledo and Iriga have only a bank branch located within their geographic area and have no establishments present for the other types of economic and service activities. On the other hand, there are chartered cities close to a larger urban center which exhibit substantial population concentrations though they possess none or very few of the service functions considered. Service functional establishments are usually localized in the larger urban center close by.

### Cities and Regions: An Organic View

The foregoing view of the system of cities in the Philippines highlights the dominant influences of geography and economic forces on the pattern of human settlements. A look at Map 3.2 indicates that the broad regional centers, the highest order of central places, are relatively evenly distributed. Each broad region (Luzon, Visayas and Mindanao) is served by a city that is quite complete in central functions.<sup>9</sup> The evenness of the representation of the next lower level of urban places, regional centers, is also quite remarkable. The archipelagic topography of the country and the resulting difficulty in transportation and communications seem to dictate that each region be autarkic to some extent (see also Ullman 1960). Consequently, the number of urban centers in the country is more than what would otherwise have been expected.

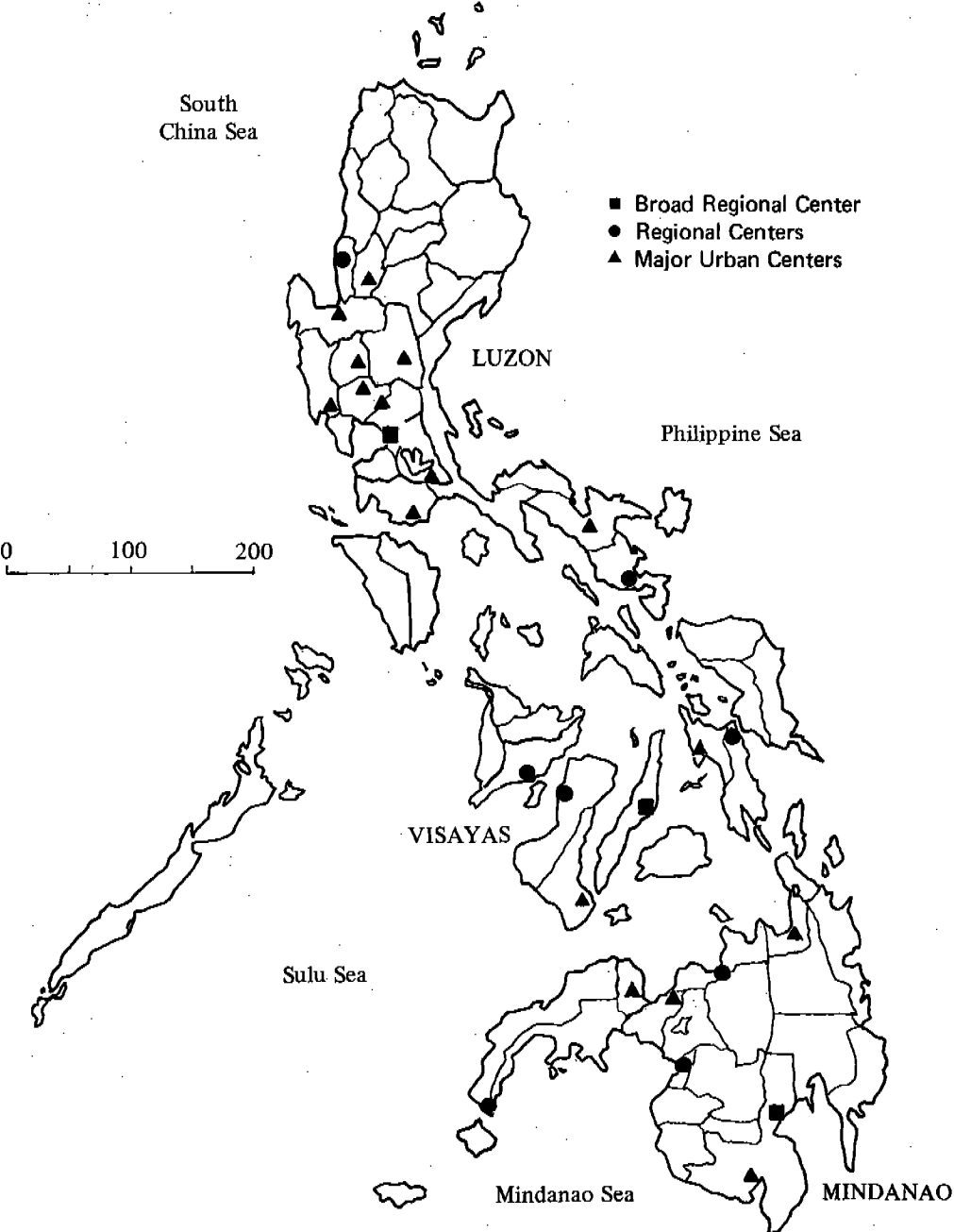
The other interesting picture depicted by the data is the close association between the development of cities and the relative maturity of the

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<sup>8</sup>Tertiary ports are capable of handling traffic serving a limited portion of the regional hinterland and capable of performing local port functions. Secondary airports serve principal towns and cities with regular traffic densities that warrant the operation of jet-prop aircrafts.

<sup>9</sup>Although Metro Manila still has a distinct advantage in the very specialized services like accounting firms, advertising agencies, consultancy and research firms.

Map 3.2 Philippines: Broad Regional Centers, Regional Centers, Major Urban Centers



regions (cf. also Pernia's Special Paper on cities and regional development). Note, for example, the cities in the CIR, the most developed economic region of the post-war era. Although proximity to the national urban center has prevented the evolution of regional centers (as defined above) in Central Luzon and Southern Tagalog, there is a relative abundance of major urban centers in these two regions (Table 3.3). In contrast, most of the other regions have their lower ranked cities at the level of secondary urban centers. The level of development of the CIR has enabled it to support more developed central places than the other regions. This it did at the same time that the primate city was growing in its midst.

A closer look at the broad region of Luzon uncovers corroborating evidence on this phenomenon. Close to the CIR are two of the least developed regions of the country, Cagayan Valley and Bicol. The former is conspicuous for the absence of a large city within its bounds. Its highest order central place is classified as a secondary urban center, Tuguegarao. Bicol, on the other hand, has a relative scarcity of all types of central places except for the presence of a regional center, Legaspi City. The same observation may be made of Eastern Visayas. The conclusion that may be inferred is that less developed regions demand lower level central functions and therefore exhibit a less developed city system.

The preceding discussion illustrates the symbiotic relationship between the city and the region that it serves. The region requires and gives a reason for central functions to exist in a city. The city in turn provides the necessary services at the same time that it draws on the surrounding area the wherewithal for its continued existence.<sup>10</sup> Depending on the role it plays, the city's tributary area will be of some corresponding size.

The urban system interlaces the spatial fabric of the country, serving as a mechanism for the interaction of various places. The impacts of both macroeconomic and area-specific policies tend to be communicated throughout the archipelago primarily via the interconnection of cities. The city system should therefore be viewed as the nervous system of the economy. Recognition of this point is important in planning national and regional economic growth (cf. Pernia's Special Paper).

The organic view of cities and regions has useful implications. On a superficial plane, the degree to which a city has developed is an indication of the level of development of the region to which it belongs. As already implied, the types of cities found in the region would be one of the indicators of the region's maturity; the more developed its system of cities is

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<sup>10</sup>The influence of urban centers on neighboring agriculture is analyzed in Luna, Pernia and Hermoso's Special Paper. It shows that the effect tends to be negative at low levels of regional development but becomes positive at higher levels of development.

(i.e., the higher the order of the cities), the more advanced the region would be. Beyond that, however, the development of its cities also largely determines the extent to which the region can avail itself of impulses from other regions and from the overall growth of the economy. At the same time, a region's cities also affect its ability to transmit forces that start within its boundaries.

The centrality of a city is therefore a key factor that has to be considered in regional development policy. What the policymakers should strive for is the integration of the whole country as one market such that the spread effects of economic changes are not stifled. This seems best done by exploiting the city system. For a less developed region, for example, an important part of a development program is the improvement of the economic and social infrastructure as well as an increase in the availability of central functions in its cities. This would connect the region with the rest of the economy and at the same time prevent the choking off of the initial impulses due to a shortage of crucial services (e.g., banking and communication). Hence, hand in hand with any program to develop a region should be a plan to upgrade the system of cities in that region. More balanced regional development entails a more systematic development of cities if the full effectivity of a development program is to be achieved.

## **CHAPTER 4**

# **PATTERNS AND DETERMINANTS OF MANUFACTURING CONCENTRATION AND POPULATION MOVEMENTS**

As discussed in the preceding chapter, Manila (the National Capital Region -- NCR) and, subsequently, the central industrial region (CIR) emerged as the nation's center of economic activity and population as a response to changing economic policy regimes besides market forces. The shift in regional comparative advantage from the traditional agricultural region (TAR) to the CIR became particularly noticeable during the post-war period with the adoption of industrialization and trade policies based on import substitution. While preferential tariffs induced the cultivation of crops and the production of resource-based manufactures in the TAR for export to the mother country during the Colonial Period, the economic environment of heavy protection during the Import Substitution Period via import and exchange controls, tariffs and indirect taxes stimulated the production of consumer goods in the country's urban and industrial capital. Thus, the overall effect of the shift in the country's development strategy was not only to strongly encourage consumer-oriented industrialization but also to discriminate against or even penalize agro-based industries, export production and backward integration (Bautista, Power and Associates 1979).

In this chapter, we first describe the regional distribution of manufacturing activity over time, as well as in 1975, which happens to be the latest period for which we have data. We then attempt to identify the determinants of the spatial concentration of manufacturing. In the second part of the chapter, we take a look at a related phenomenon -- the patterns of population movements and the factors explaining them.

The focus of the first part of the analysis is on manufacturing industries for three reasons. First, manufacturing accounts for a substantial proportion of industrial activity and is often the most dynamic component of the industrial sector. Second, manufacturing firms are relatively free to locate anywhere and tend to be responsive to economic factors and policies. And



third, there are more data on manufacturing industries than on other types of economic activities.

### Historical Perspective, 1903-75

In 1903, 43 percent of all manufacturing establishments were found in the TAR (the Visayas regions, Bicol and Ilocos). This share rose to 70 percent by 1939 (Table 4.1). The increase in manufacturing firms in the TAR was especially rapid in the first half (1903-18) of the American Colonial Period. The NCR had about 30 percent of the establishments in 1903 which dropped to 3 percent in 1939, while the CIR as a whole started with 55 percent and ended the period with only 14 percent of all establishments.

In terms of manufacturing employment, the TAR accounted for two-thirds of the total in 1903 and a little over one-half in 1939 (Table 4.2). The diminishing share was brought about by negative growth rates in manufacturing work force particularly in the latter part of the period, due most likely to increasing out-migrations from the region. During the same period, the NCR's share steadily rose from 6 to 16 percent while that of the CIR stood at around 30 percent throughout.

Data on manufacturing output indicate that, during the period 1903-38, resource-based industries such as food manufacturing, tobacco and wood products captured from 58 to 65 percent of manufacturing gross value added (Table 4.3). Hence, together with the data on establishments and employment, there is sufficient evidence to show that during the Colonial Period agro-based industries in the TAR played a pivotal role in the economy.

The early post-war years (1948-61) saw precipitous declines in the TAR's shares of manufacturing establishments and employment from 48 and 41 percent to 35 and 20 percent, respectively (Tables 4.1 and 4.2). By contrast, the NCR experienced phenomenal increases in its share of establishments from 17 to 28 percent, and of employment, from 29 to 54 percent. This reflected, at least in part, the policy shift to import-substitution industrialization which benefited the national urban center. Furthermore, in terms of manufacturing output, such urban-based industries as textile, paper, rubber, chemical and metallic products became noticeable at the onset of the 1960s (Table 4.3).

After the dismantling of the import and foreign exchange controls with the peso devaluation in the early 60s, the NCR exhibited slightly diminished proportions of establishments and employment — from 28 and 54 percent in 1961 to 22 and 51 percent in 1967, respectively (Tables 4.1 and 4.2). And on the whole, the urban-based industries just mentioned also experienced decreased shares in manufacturing value-added (Table 4.3). During

**Table 4.1**    **Percentage Distribution of Manufacturing Establishments by Region**

Region	1903	1939	1948	1961	1967	1975
<i>Central Industrial</i>	<u>55.28</u>	<u>14.07</u>	<u>37.53</u>	<u>48.26</u>	<u>43.12</u>	<u>42.76</u>
NCR and Rizal	29.70	3.01	16.58	28.03	22.13	18.87
Central Luzon	14.65	4.39	8.76	8.94	10.08	10.46
Southern Tagalog	10.93	6.67	12.19	11.29	10.91	13.43
<i>Traditional Agricultural</i>	<u>42.51</u>	<u>69.58</u>	<u>48.07</u>	<u>34.78</u>	<u>35.53</u>	<u>35.81</u>
Ilocos	5.01	24.86	9.88	9.39	8.65	10.68
Bicol	5.53	11.68	5.73	5.86	5.42	7.37
Western Visayas	23.56	4.29	11.88	7.21	10.52	9.17
Central Visayas	7.31	12.40	10.92	7.82	7.58	5.58
Eastern Visayas	1.10	16.35	9.66	4.50	3.36	3.01
<i>Frontier</i>	<u>2.21</u>	<u>16.35</u>	<u>14.40</u>	<u>16.96</u>	<u>21.35</u>	<u>21.43</u>
Cagayan Valley	0.46	0.78	3.47	3.34	3.36	4.71
Western Mindanao	1.17	12.86	3.00	2.27	5.39	2.80
Northern Mindanao	0.58	2.03	3.97	3.33	3.49	4.38
Southern Mindanao	—	0.30	1.91	3.68	5.58	6.07
Central Mindanao	—	0.38	2.05	4.34	3.53	3.47
<i>Philippines</i>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>

Sources: *Census of Population and Economic Activities*, 1961, 1939, 1948; *Economic Census*, 1961, 1967; *Census of Establishments*, 1975, Volume on Manufacturing

Table 4.2 Percentage Distribution of Manufacturing Employment by Region

Region	1903	1939	1948	1961	1967	1975
<i>Central Industrial</i>	<u>29.55</u>	<u>31.35</u>	<u>46.59</u>	<u>67.75</u>	<u>64.20</u>	<u>64.53</u>
NCR and Rizal	6.48	16.19	29.39	53.66	51.25	46.84
Central Luzon	9.40	6.64	7.34	7.27	7.22	7.73
Southern Tagalog	13.67	8.52	9.86	6.82	5.73	9.96
<i>Traditional Agricultural</i>	<u>67.13</u>	<u>55.72</u>	<u>41.47</u>	<u>20.49</u>	<u>18.68</u>	<u>20.72</u>
Ilocos	15.12	14.74	6.99	3.75	2.89	3.69
Bicol	8.38	9.88	4.85	2.34	2.15	3.62
Western Visayas	19.27	7.86	10.51	7.20	6.96	6.45
Central Visayas	14.29	10.65	11.89	5.61	5.28	5.76
Eastern Visayas	10.07	12.59	7.23	1.59	1.40	1.20
<i>Frontier</i>	<u>3.32</u>	<u>12.93</u>	<u>11.94</u>	<u>11.76</u>	<u>17.12</u>	<u>14.75</u>
Cagayan Valley	0.80	1.03	2.17	1.52	2.11	2.61
Western Mindanao	0.26	8.76	1.67	1.63	1.50	1.40
Northern Mindanao	2.13	2.04	4.93	3.44	4.06	3.49
Southern Mindanao	0.11	0.45	1.71	2.40	5.80	4.73
Central Mindanao	0.02	0.65	1.46	2.77	3.65	2.52
<i>Philippines</i>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>

Sources: *Census of Population and Economic Activities* 1903, 1939, 1948; *Economic Census*, 1961, 1967; *Census of Establishments*, 1975, Volume on Manufacturing.

**Table 4.3** Percentage Distribution of Manufacturing Gross Value Added by Industry Groups

	1903	1938	1948	1960	1967	1975
Food Manufacturing	25.7	52.1	30.8	27.0	29.72	25.67
Beverages	12.7	4.7	25.1	8.6	4.49	4.89
Tobacco Products	24.2	7.2	4.7	5.6	6.94	9.32
Textile Products	0.5	0.8	2.6	4.6	6.07	5.58
Footwear & Other Wearing Apparel	5.9	7.8	6.6	3.0	4.49	3.57
Wood and Cork Products	8.0	5.3	9.7	4.0	5.46	2.85
Furniture & Fixtures	2.3	1.9	1.8	0.9	0.73	0.45
Paper & Paper Products	0.0	0.0	0.0	2.3	2.70	2.94
Printing & Printed Products	4.9	3.6	3.7	3.2	2.18	2.70
Leather Products	0.7	0.1	0.0	0.3	0.40	0.18
Rubber Products	0.0	0.0	0.6	3.2	1.35	1.59
Chemical & Chemical Products	1.9	6.9	2.9	10.0	6.96	13.09
Products of Coal & Petroleum	(a)	(b)	(b)	(b)	7.56	7.44
Non-Metallic Mineral Products	3.9	3.3	2.1	3.7	4.56	3.61
Basic Metal & Metallic Products	0.9	0.7	1.9	8.0	5.88	5.96
Machinery	3.6	0.2	0.5	4.2	4.20	3.83
Transportation Equipment	(a)	0.4	1.0	2.2	5.09	5.09
Miscellaneous	4.2	3.9	5.7	8.2	1.22	1.24
Total Manufacturing	100.0 <sup>c</sup>	100.0 <sup>c</sup>	100.0 <sup>c</sup>	100.0 <sup>c</sup>	100.0	100.0

(a) = negligible (b) = included in miscellaneous manufacturers

(c) = the sum of the figures do not total 100.0 due to rounding.

Sources: Umaña (1966), Appendix Table 1 for 1903, 1938, 1960; and *Philippine Statistical Yearbook*, 1978 for 1967 and 1975.

the same interval, the TAR remained more or less stable, while the frontier region (FR) expanded its shares of establishments and employment from 17 and 12 percent in 1961 to 21 and 17 percent in 1967, respectively. This represented the effects of the government's frontier settlement program.

In the subsequent period, the NCR experienced further diminution in manufacturing activity but Southern Tagalog made up for it, thereby making CIR as a whole maintain its dominant position. At the same time, both the TAR and the FR maintained their secondary positions despite the avowed regional development policy of the government during this period. What appears to have happened was that, despite the change in policy to decontrol and devaluation, the import-substitution strategy was effectively carried over with the continuation of the tariff structure and tax incentives, including wage and price policies. It is also very likely that most of the instruments of the rural/regional development thrust (e.g., rice policy, land reform, agricul-

tural credit schemes, pricing policies, infrastructure expenditures and social services) favored primarily Southern Tagalog and Central Luzon. It thus seems that in the mid-70s, the spillover effects started to be felt in the metropolitan periphery which, together with the NCR, subsequently became known as the CIR.

### Determinants of Spatial Concentration of Manufacturing

In 1975, the NCR had about one-fifth of all manufacturing establishments and just under one-half of total manufacturing employment and output (Tables 4.1, 4.2, 4.4). Industries located in the other regions were mostly the resource-based types such as food manufacturing, leather, wood, paper, non-metal products and petroleum refineries. Taking the CIR into account, concentration rose to about 43 percent of all manufacturing establishments, 65 percent of aggregate employment, and three-quarters of total output. This was because Southern Tagalog and Central Luzon had substantial shares of such resource-based industries as leather, paper, non-metal products and petroleum refineries. The balance of manufacturing activity was largely found in the budding industrial regions of Western and Central Visayas, Northern and Southern Mindanao.

As Hermoso discusses in her Special Study, Weberian industrial location theory posits that the location of manufacturing activity is determined primarily by markets, resources and agglomerative economies. Economic policies, however, also play a key role especially in developing countries where markets are imperfect on account of deficient information and transportation.

In a regression analysis of the theoretically likely determinants of manufacturing concentration in the NCR (which is elaborated on in Hermoso's Special Study), effective protection of consumer goods and imported inputs orientation of firms figure prominently (Table 4.5). Other factors that significantly promote concentration are forward industrial linkage, export orientation, employment size of establishment, and relative wage rate. In contrast, primary materials orientation of firms operate against concentration in the NCR, in favor of location in the regions. This is why resource-based industries are mostly found in the regions.

Of the various forces that bring about spatial concentration, two forces — effective protection rate and imported inputs orientation — distinctly reflect the import-substitution industrialization policy of the 50s and 60s whose effects were perpetuated in the 70s through the tariff structure (Tan 1979). Since the protected industries essentially catered to the urban market, they naturally located in the capital city. These consumer-oriented

Table 4.4 Percentage Distribution of Manufacturing Census Value Added by Region

Region	1961	1967	1975
<u>Central Industrial</u>	<u>74.26</u>	<u>71.28</u>	<u>74.28</u>
NCR and Rizal	55.19	54.00	47.24
Central Luzon	10.25	6.06	13.29
Southern Tagalog	8.82	11.22	13.75
<u>Traditional Agricultural</u>	<u>19.83</u>	<u>15.43</u>	<u>17.42</u>
Ilocos	1.57	1.49	1.23
Bicol	0.79	1.29	0.73
Western Visayas	11.95	8.43	9.16
Central Visayas	4.92	3.34	5.37
Eastern Visayas	0.60	0.88	0.93
<u>Frontier</u>	<u>5.91</u>	<u>13.29</u>	<u>8.30</u>
Cagayan Valley	0.63	0.99	0.63
Western Mindanao	0.79	0.45	0.57
Northern Mindanao	1.86	3.82	2.59
Southern Mindanao	1.28	4.11	2.20
Central Mindanao	1.35	3.92	2.31
<u>Philippines</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>

Sources: *Economic Census*, 1961 and 1967; *Census of Establishments*, 1975, Volume on Manufacturing.

Table 4.5 Determinants of Spatial Concentration in NCR

Independent	Dependent: CRCVA		Independent	Dependent: LCRCVA	
	(1)	(2)		(1)	(2)
EPR	0.151 (2.073)	0.194 (4.880)	EPR	0.013 (1.869)	0.018 (2.322)
FM	31.809 (2.584)	41.343 (3.259)	FM	5.264 (2.176)	5.687 (2.159)
FUNCR	6.594 (2.864)		LFUNCR	0.246 (2.468)	
FX	45.042 (3.629)	51.845 (4.193)	FX	3.987 (1.925)	2.155 (0.821)
NER	0.008 (0.455)		LNER	0.710 (7.663)	
FPI	-16.970 (-2.287)	-17.709 (-2.089)	LFPI	-0.218 (-3.421)	-0.128 (-1.720)
WNCR	(1.824)	5.040	LWNCR		0.959 (2.908)
KER	(-0.627)	-0.000	LKER		0.236 (0.900)
Constant	-6.098	-11.677		-4.082	-2.962
R <sup>2</sup>	0.643	0.570		0.922	0.897
F-value	9.413	7.176		56.558	41.747

Note: t-values in parentheses underneath regression coefficients.

Notations:

CRCVA = concentration ratio of census value added in NCR,  
 EPR = weighted effective protection rate,  
 FM = fraction of imported material inputs (from 1969 I-O Table).  
 FYNCR = fraction of industry output to Manila manufacturing firms,  
 FX = fraction of exported output,  
 NER = employment to establishments ratio in NCR,  
 FPI = fraction of material inputs from primary industries.  
 WNCR = ratio of NCR's average wage rate to national average wage rate excluding NCR's,  
 KER = capital (fixed assets) to establishments ratio in NCR,  
 LCRCVA = natural log of CRCVA,  
 LFYNCR = natural log of FYNCR,  
 LNER = natural log of NER,  
 LFPI = natural log of FPI,  
 LWNCR = natural log of WNCR,  
 LKER = natural log of KER.

Source: Hermoso's Special Study in this volume.

industries included, among others, paper and plastic products, textiles, footwear and household appliances, to mention only the heavily protected ones (cf. Bautista and Power 1979). Moreover, by being in the capital city, they could more easily take advantage of the domestic tax/subsidy programs besides being close to skilled labor markets and ancillary services. Likewise, because these industries required imported raw materials, intermediate and capital goods, they needed easy access to the international port and to offices that issue import licenses and foreign exchange. This finding is supportive of the cross-country analysis in Chapter 2 which showed that openness of certain Asian economies in the 60s and 70s contributed to urban primacy.

Another variable — urban wage rate — is directly linked to policy, namely, the minimum wage law which has artificially inflated money wages, making the NCR attractive to migrant labor.<sup>1</sup> Alternatively, to the extent that a high relative wage rate is indicative of the presence of skilled workers, it can serve as one of the criteria for industrial location decision.

Export orientation, which was stimulated in the 70s,<sup>2</sup> apparently also tends to induce concentration because of the need to be near government offices that issue export licenses, major banks and international trading companies, among others for the requirements of the export business. Moreover, it is very likely that several of the import substituting firms in the 50s and 60s that were already situated in the NCR switched to exports in response to policy.

The two other explanatory variables mentioned — forward industrial linkage and firm size — have to do with certain technological characteristics of firms which can make them benefit from agglomeration economies. Because of such characteristics, firms have to locate in the NCR in order to be viable.

It seems clear that the forces for spatial concentration unleashed with the industrial and trade policies of the 50s and 60s continued to be operative in the 70s. Not only did the effectiveness of the former policies continue to linger, but the later ones, such as the tariff structure and export promotion, continued to engender the concentration bias that would offset the dispersal policies. It is hardly surprising, therefore, that the government's regional development thrust would have produced little palpable results by the end of the 70s.

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<sup>1</sup> The minimum wage law also stipulates minimum wages for the regions but, for understandable reasons, enforcement tends to be much less rigid.

<sup>2</sup> The de facto peso devaluation in February 1970, for instance, served as a strong inducement for exports, not to mention the Export Incentives Act of 1970 itself.



## Patterns of Population Movements

The national settlement system is made dynamic by population movements in addition to the shifting location of industries. Like industrial location, population distribution tends to be uneven especially in the early and intermediate stages of development. This characterizes the Philippine space economy in post-war decades.

Prior to the 1960s, there were two major migration streams: from Luzon regions and Eastern-Western Visayas to the National Capital Region (NCR) and Cagayan Valley, and from the Visayas regions and some parts of Luzon to frontier areas in Mindanao (Table 4.6; see also Pascual 1966, Smith 1977). Southern Mindanao ranked first both in terms of in-migration and net migration rates, followed closely by the NCR. Three other regions proved to be net receivers of migrants: Western Mindanao, Cagayan Valley and Northern Mindanao. The rest exhibited negative net migration rates, with the heaviest population losses experienced by Central Visayas, Western Visayas, Eastern Visayas and Ilocos, in that order.

The strong currents of migration to the NCR were consonant with the nation's post-war industrializing trend in the direction of Manila, as already discussed. On the other hand, the population movements to Cagayan Valley and Mindanao were a response to the rich agricultural resources in those regions and to the resettlement programs of the government in the 50s. Because of the shift of economic activity away from the Visayas, Ilocos and Bicol, these traditional agricultural regions (TAR) became the sources of migrants.

In the 60s, the NCR became the most preferred destination, with Southern Mindanao coming only second although it continued to be the top net receiver of migrants (Table 4.7). Similarly, Northern Mindanao surpassed Western Mindanao in terms of both in-migration and net migration. Cagayan Valley lost some of its attractiveness but it remained a net absorbing region. Southern Tagalog changed status from a losing to a gaining region, reflecting, together with NCR, the rise of the Central Industrial Region (CIR). Thus, on the whole, population movements during the 60s signalled a definite shift from a frontierward to an urbanward orientation.

The urban-industrial direction of migration that began in the 60s became more visible in 1970-75 (Table 4.8). Both Southern Tagalog and Central Luzon (which, together with NCR, form CIR) appreciably improved their relative rankings in terms of net migration. There was also a change in the destination preference of Visayan migrants, from Mindanao to the NCR and Southern Tagalog, resulting in some net loss to Western and Central Mindanao. Furthermore, Cagayan Valley which used to be a net in-migration region started to suffer a net outflow in the first half of the 70s.

**Table 4.6** In-migration, Out-migration and Net Migration Rates  
Birth-to-1960 (per thousand)

Region	In-migration Rate	Rank	Out-migration Rate	Rank	Net Migration Rate	Rank
I Ilocos	35.0	8	139.4	3	-104.4	9
II Cagayan Valley	157.7	6	66.5	8	91.2	4
III Central Luzon	40.9	7	138.3	4	-97.4	8
IV Southern Tagalog	110.7	4	126.2	9	-15.5	6
IV-A National Capital	375.1	2	46.2	10	328.9	2
V Bicol	34.8	9	83.9	7	-49.1	7
VI Western Visayas	22.7	11	142.9	2	-120.2	11
VII Central Visayas	31.5	10	243.5	1	-212.0	12
VIII Eastern Visayas	18.1	12	132.0	5	-113.9	10
IX Western Mindanao	293.0	3	37.1	11	255.9	3
X Northern Mindanao	166.5	5	113.5	6	48.0	5
XI Southern Mindanao	378.0	1	27.0	12	351.0	1

Source: Census of Population and Housing, 1960, Appendix.

Table 4.7 In-migration, Out-migration and Net Migration Rates 1960-70 (per thousand)

Region		In-migration Rate	Rank	Out-migration Rate	Rank	Net Migration Rate	Rank
I	Ilocos	20.35	12	52.71	9	-32.65	10
II	Cagayan Valley	57.05	7	41.33	10	15.72	5
III	Central Luzon	66.54	5	94.46	4	-27.92	9
IV	Southern Tagalog	64.16	6	55.44	7	8.72	6
IV-A	National Capital	231.59	1	104.14	3	127.14	2
V	Bicol	18.45	13	35.43	12	-16.98	8
VI	Western Visayas	22.08	11	86.32	5	-64.24	11
VII	Central Visayas	39.47	8	135.71	1	-96.24	13
VIII	Eastern Visayas	29.06	9	115.38	2	-86.32	12
IX	Western Mindanao	83.67	4	40.67	11	43.00	4
X	Northern Mindanao	156.27	3	85.05	6	71.21	3
XI	Southern Mindanao	212.63	2	53.42	8	159.21	1
XII	Central Mindanao	28.30	10	26.32	13	1.97	7

Source: Flieger et al. (1976), Table 21, p. 40.

**Table 4.8 In-migration, Out-migration and Net Migration Rates 1970-75  
(per thousand)**

Region	In-migration Rate	Rank	Out-migration Rate	Rank	Net Migration Rate	Rank
I Ilocos	12.2	9	29.1	2	-16.9	13
II Cagayan Valley	13.3	8	15.6	12	-2.3	7
III Central Luzon	21.8	4	15.9	11	5.9	5
IV Southern Tagalog	64.5	1	50.5	1	14.0	2
IV-A National Capital	34.0	3	25.3	4	8.7	4
V Bicol	11.5	10	21.8	7	-10.3	10
VI Western Visayas	10.3	11	14.4	13	-4.1	8
VII Central Visayas	15.9	6	28.0	3	-12.1	12
VIII Eastern Visayas	17.9	5	19.9	9	-2.0	6
IX Western Mindanao	9.2	12	20.9	8	-11.7	11
X Northern Mindanao	34.0	3	19.0	10	15.0	1
XI Southern Mindanao	35.3	2	22.9	6	12.6	3
XII Central Mindanao	14.6	7	23.9	5	-9.3	9

**Source:** NCSO, Census Place-of-Residence data, 1975 (unpublished).

## Determinants of Interregional Migration

Conventional migration analysis has almost always shown that economic factors, particularly income and employment opportunities, provide a good explanation of migration behavior, whether viewed in a macro or micro context. This result is also essentially borne out in the present study using Philippine census data (cf. Gonzales and Pernia's Special Paper). However, besides these standard economic indicators, such other factors as kinship and ethnicity also figure significantly, as also illustrated by a few studies in the United States (see, e.g., Greenwood 1975).

Analysis of the 1960-70 interregional migration pattern highlights the drawing power of economic (employment) opportunities at the destination region and the facilitating effects of kin (migrant stock) at destination and of ethnicity (common language between origin and destination). As in other studies, level of education at origin also comes out as a significant determinant in that it represents initial human capital, improves knowledge about alternative places and opportunities, and at the same time, raises aspirations (Table 4.9). Farm density serves as a push factor, as would be expected; by contrast, extent of farm irrigation at origin tends to prevent out-migration because irrigated farms raise productivity as well as absorb more labor. The transportation factor appears insignificant, as might be expected, given the important functions performed by kinship, ethnicity and education (see Schwartz 1973). The salience of employment opportunities over income at destination and the significance of the kinship effect are consistent with earlier studies using household data (Pernia 1978, 1979).

The regression results for 1970-75 further substantiate the crucial role in migration of kinship and ethnicity (making transport consideration immaterial), as well as of economic (employment) opportunities at destination (Table 4.9). Likewise, farm density at origin does appear again to exert the pressure for moving out. At the same time, however, poverty incidence at origin seems to hamper the ability to migrate, i.e., given that migration entails some initial capital, the very poor are forced to stay put. This last point is worth noting because, while migration has become a highly noticeable phenomenon in recent years, the inability of other people to migrate has been overlooked. If such inability to migrate is related to poverty as suggested by the analysis, then large segments of the population especially in the depressed regions must be potential migrants. The question for policy would seem to be: should these people be given assistance to move to where they can be better off, or would the development of depressed areas be a more promising solution?

Table 4.9 Determinants of Interregional Migration

Independent Variables	1960-70		1970-75	
EST <sub>i</sub>		-0.017 (-0.089)		0.056 (0.233)
EST <sub>j</sub>	0.788 (5.495)		0.725 (5.547)	0.693 (2.970)
FD <sub>i</sub>	0.381 (1.689)	0.217 (0.626)	0.907 (3.113)	1.840 (3.618)
FD <sub>j</sub>	-0.806 (-3.913)	-0.162 (-0.758)	0.346 (1.615)	-0.152 (-0.396)
IRR <sub>i</sub>	-0.737 (-6.575)	-0.765 (-4.772)	-0.116 (-1.037)	-0.615 (-3.096)
UN <sub>i</sub>			0.013 (0.145)	
UN <sub>j</sub>		-0.328 (-1.693)		
ED <sub>i</sub>	1.533 (4.553)	1.253 (2.527)	-0.125 (-2.071)	0.181 (1.770)
ED <sub>j</sub>	0.395 (1.382)		-0.101 (-1.998)	0.000 (0.003)
FY <sub>j</sub>		0.252 (1.075)		
MS <sub>ij</sub>	0.624 (14.339)	0.713 (12.479)	0.582 (12.922)	
TRANS <sub>ij</sub>	0.001 (0.005)	-0.088 (-0.477)	0.082 (0.398)	-0.185 (-0.498)
L <sub>ij</sub>	0.778 (4.975)	0.455 (2.508)	0.535 (3.540)	
POV <sub>i</sub>			-0.256 (-1.578)	-0.682 (-2.446)
Constant	-6.118	-2.626	-2.640	1.392
R <sup>2</sup>	0.848	0.802	0.731	0.116

Note: t-values are in parentheses underneath regression coefficients.

*Notations:*

- EST<sub>i, j</sub> = employment opportunities at i (origin), j (destination);  
 FD<sub>i, j</sub> = farm density at i, j;  
 IRR<sub>i</sub> = farm irrigation at i;  
 UN<sub>i, j</sub> = unemployment rate at i, j;  
 ED<sub>i, j</sub> = level of education at i, j;  
 FY<sub>j</sub> = family income at j;  
 MS<sub>ij</sub> = migrant stock from i at j;  
 TRANS<sub>ij</sub> = transportation access between i and j;  
 L<sub>ij</sub> = common language between i and j;  
 POV<sub>i</sub> = poverty incidence at i.

Source: Gonzales and Pernia's Special Paper.

## CHAPTER 5

# CONCLUSIONS AND POLICY IMPLICATIONS

### Summary of Salient Findings

Despite a steadily rising level of urbanization during this century, the Philippines remains a predominantly rural country, reflecting its overall level of industrialization and development. As of 1980, only about 36 percent of total population could be considered living in urban places,<sup>1</sup> compared to the world average of 41 percent and to East Asia's 72 percent. The notable, though not surprising, aspect of the nation's spatial and urban development, however, has been the mounting concentration of population and economic activity in Manila, the National Capital Region (NCR), despite the proliferation of lower-level urban centers — an indication of the rapid growth of total urban population.

In an historical context, the center of population and economic activity of the country can be viewed as having shifted from the traditional agricultural region (TAR — Visayas, Bicol and Ilocos) to the national capital region (NCR), gradually spilling over into the metropolitan periphery of Southern Tagalog and Central Luzon and forming what is now known as the Central Industrial Region (CIR). The central thesis of this study is that the spatial development of the economy has been shaped by natural economic and social forces in certain areas accentuated by the spatial biases of trade and industrial policies, such that the later regional and rural policies were largely ineffective in countering the polarization phenomenon.

Thus, during the Colonial Period (1900-1939), the agricultural regions were the center because they produced, with the incentive of preferential tariffs, the crops for export to the mother country. During this period, urban population increase occurred mainly in cities located in the agricultural

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<sup>1</sup>According to the official definition of urban. On closer inspection, one finds that many of these so-called urban places are not really quite urban in character. This implies the need for a more rigorous definition as well as its faithful application. However, for international comparison purposes, the above figure is most likely suitable.

regions. However, increasing population density on a limited resource base, the vulnerability of primary exports to the vagaries of international trade, and the shift in emphasis from agriculture to industry brought about a slackening of the relative and absolute growth of population and economic activity in these regions — making them sluggish from the late 40s through the 70s.<sup>2</sup>

During the 50s through the mid-60s, the government pushed an industrialization policy anchored on import substitution. Given Manila's locational advantages as the administrative and financial center and as the locus of the country's international port, its absolute and comparative advantage in manufacturing activity evolved rapidly. Hence, manufacturing firms clustered in the NCR for ease of access to the port, to import licenses and foreign exchange, to skilled labor markets and ancillary services, as well as to the domestic market for their products which catered to urban tastes. At the same time, during the Import Substitution Period, there was a noticeable shift in migration from frontierward streams to movements to the urban-industrial center of Manila that subsequently expanded into Southern Tagalog and Central Luzon. During this period, too, urban places mushroomed within the CIR.

In the meantime, the frontier region (FR — Mindanao and Cagayan Valley) was activated by government resettlement programs during the late Colonial Period and early post-independence period, but the impact appeared short-run in nature. Moreover, the deteriorating peace and order condition in the FR further heightened the attractiveness of the CIR. The earlier developments in the FR, in any case, contributed to the further decline of the TAR.

The spatial pattern of manufacturing activity in 1975 can be described as one in which resource-based industries (e.g., food, wood, paper, iron and steel) were located outside the NCR; by contrast, import-substituting and final-stage processing industries (e.g., textile, wearing apparel, footwear, chemical, rubber, leather and plastic products) were concentrated in the NCR and more broadly in the CIR. It thus seems that the strong forces for concentration unleashed by the import-substitution industrialization strategy of the 50s through the mid-60s became so deeply imbedded in the economic structure that their effects continued to be felt through the 70s. And these effects were sustained by the retention of the tariff structure which was one of the main planks of the import-substitution policy.

Meanwhile, population movements, facilitated by kinship and ethnic

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<sup>2</sup>One could conjecture that without the drastic shift in policy thrust, the polarization that ensued may have been more moderate (i.e., perhaps Cebu may now be a stronger metropolis for the Visayas and Northern Mindanao).



networks developed over the years, proceeded in their urban-industrial orientation, promoting further regional inequalities in skilled labor and domestic demand. Thus, past developments have engendered a self-perpetuating imbalance that may still be abetted by remaining policies.

The late 1960s saw the start of the Regional Awareness Period when dispersed development became an explicit goal. Initial indications seem to show some faint response to the new policy theme. The lingering spatial effects of earlier trade and development policies, the well-developed networks for migration, as well as established agglomeration economies may be inhibiting the smooth operation of dispersal policies. Moreover, the instruments of the rural/regional development thrust (e.g., rice policy, land reform, agricultural credit schemes, pricing policies, infrastructure expenditures, social services and the 50-kilometer radius ban) appear to have made their initial impact primarily on Southern Tagalog and Central Luzon which have become parts of the CIR conurbation. For instance, the 50-kilometer radius industrial-location ban in the early 70s to decongest Metro Manila resulted in about 30 percent of new plants locating Southern Tagalog and Central Luzon and another 17 percent given special exemptions to situate in the NCR. Thus, close to half of the locational clearances issued by the then Human Settlements Commission ended up in the CIR. While apparently an improvement over past periods, this development still does not go a great way towards the desired dispersal. It also suggests that the dispersal policies still have to contend with the ongoing historical and economic forces unleashed in prior periods.

Finally, the influence of urbanization on agricultural labor productivity appears to be negative or in the nature of a backwash effect at low levels of regional development. In other words, cities tend to develop at the expense of the farms. At higher levels of development, the impact of regional urban centers on nearby agriculture becomes increasingly beneficial. On the other hand, agricultural development tends to dampen urbanization, reflecting absorption of labor which would otherwise migrate to urban centers.

### Implications for Policy

First of all, policymakers should aim for greater consistency between regional and rural policies, on the one hand, and policies designed for macro goals, on the other. In other words, conflicts between macro (or sectoral) objectives and regional (spatial) aims should be resolved first at the policy/planning level. Unless this is done, macro and regional policies would weaken each other's effectiveness if not altogether cancel each other out. Beyond that, it may be possible to exploit whatever complementarities there are between the two major types of policies. For example, the concentration

of certain industries in the CIR may actually already have pushed them onto the range of diminishing returns (although the returns may still be positive). From the viewpoint of macro goals, it would seem more sensible for newer firms to now be located in the other regions. However, they may be deterred by the absence of alternative industrial sites which can support them. In this case, utilizing alternative urban centers that can provide the necessary supporting functions may actually facilitate the attainment of macro goals.

As a minimum effort, it may be possible to purge macro (sectoral) policies of their spatial biases, without unduly sacrificing macro goals, in order to ease the functioning of spatial policies that, for example, encourage resource-based and small industries. The current restructuring of industrial promotion policies is in the right direction. But it seems to be explicitly designed solely for greater efficiency in resource allocation; consideration of the spatial dimension is implicit at best.

Second, the rapid growth of Southern Tagalog and Central Luzon is an indication of the fortunate confluence of spillover effects from the NCR and of regional dispersal policies. These two peripheral regions now seem to possess the natural advantages to further develop on their own. To inadvertently add to these advantages through regional dispersal policies may start another round of polarization — now toward the broader CIR region. It would seem that blanket dispersal policies to counteract the attraction of Metro Manila are now too broad — in the same way that macro policies were unable to provide close spatial guidance. It may now be necessary to be more specific about which regions are going to be the recipients of the impacts of decentralization policies.

Third, following up on the first two suggestions, the development effort for the other regions should exploit the national urban system. Broad regional urban centers (Cebu and Davao) may be developed in order to support the overflow of those industries that now experience agglomeration diseconomies in the CIR. Given that regional policy can become effective if it is introduced where natural economic and social forces are already in motion, intervention may be made at the level of these broad regional urban centers. This would also enable the government to design programs that are more region-specific.

The rest of the urban hierarchy may also be utilized. However, because certain infrastructures and some degree of agglomeration economies are needed for multiplier and spread effects, the dispersal effort should be concentrated in urban centers of requisite order (e.g., regional urban centers or major urban centers) so that available resources would not be dissipated.

Fourth, the government should strive for some balance between the welfare of populations in different areas of the country, especially between rural and urban households. This may entail the provision of assistance

to groups who are willing but unable to migrate to places of better opportunities, and the design of aid programs for those who remain behind. It would also require that programs of urban development and management be made consistent with a national spatial development policy. Specifically, urban programs should not distort economic signals to households so as to lead to disproportionate movements to congested areas. For instance, given that migration tends to be basically responsive to employment opportunities, the delivery of urban social services (health, education, housing, etc.) may be improved as long as it is accompanied by a decentralized employment policy or a shift away from urban-biased investments. However, more research into urban management, the delivery of public services and decentralized employment policy, among other issues that are not touched in this study, is needed.

In sum, the findings of this study point to the need to evolve a national spatial development policy that brings together all the seemingly disparate policies – macroeconomic and trade policies in addition to dispersal programs. Properly discussed and designed, this unifying approach may result in something closer to maximum economic growth with more socially beneficial regional balance.



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